

TOMKEN TWIN ARENA - MECHANICAL AND VARIOUS BUILDING LIFECYCLE RENEWAL
4495 TOMKEN RD, MISSISSAUGA, ON L4W 1J9
DRAWINGS ISSUED FOR PERMIT AND TENDER
PROJECT NUMBER: 1024104
DECEMBER 2024

LIST OF DRAWINGS

SITE LOCATION

MECHANICAL

- M-100 MECHANICAL SERVICES - LEGEND
- M-200 MECHANICAL SERVICES - PLUMBING LAYOUT - 1ST FLOOR - EXISTING/DEMOLISH-RINK
- M-201 MECHANICAL SERVICES - PLUMBING LAYOUT - 1ST FLOOR - EXISTING/DEMOLISH-RINK
- M-202 MECHANICAL SERVICES - PLUMBING LAYOUT - 1ST FLOOR - NEW WORK -RINK 2
- M-203 MECHANICAL SERVICES - PLUMBING LAYOUT - 1ST FLOOR - NEW WORK -RINK 2
- M-204 MECHANICAL SERVICES - PLUMBING LAYOUT - 2ND FLOOR - DEMOLISH/EXISTING
- M-205 MECHANICAL SERVICES - PLUMBING LAYOUT - 2ND FLOOR - NEW WORK
- M-300 MECHANICAL SERVICES - BOILER ROOM - EXISTING AND DEMOLITION WORK
- M-301 MECHANICAL SERVICES - BOILER ROOM - NEW WORK PLAN
- M-302 MECHANICAL SERVICES - BOILER ROOM - NEW WORK - SCHEMATIC
- M-600 MECHANICAL SERVICES - EQUIPMENT SCHEDULE
- M-700 MECHANICAL SERVICES - STANDARD DETAILS

ELECTRICAL

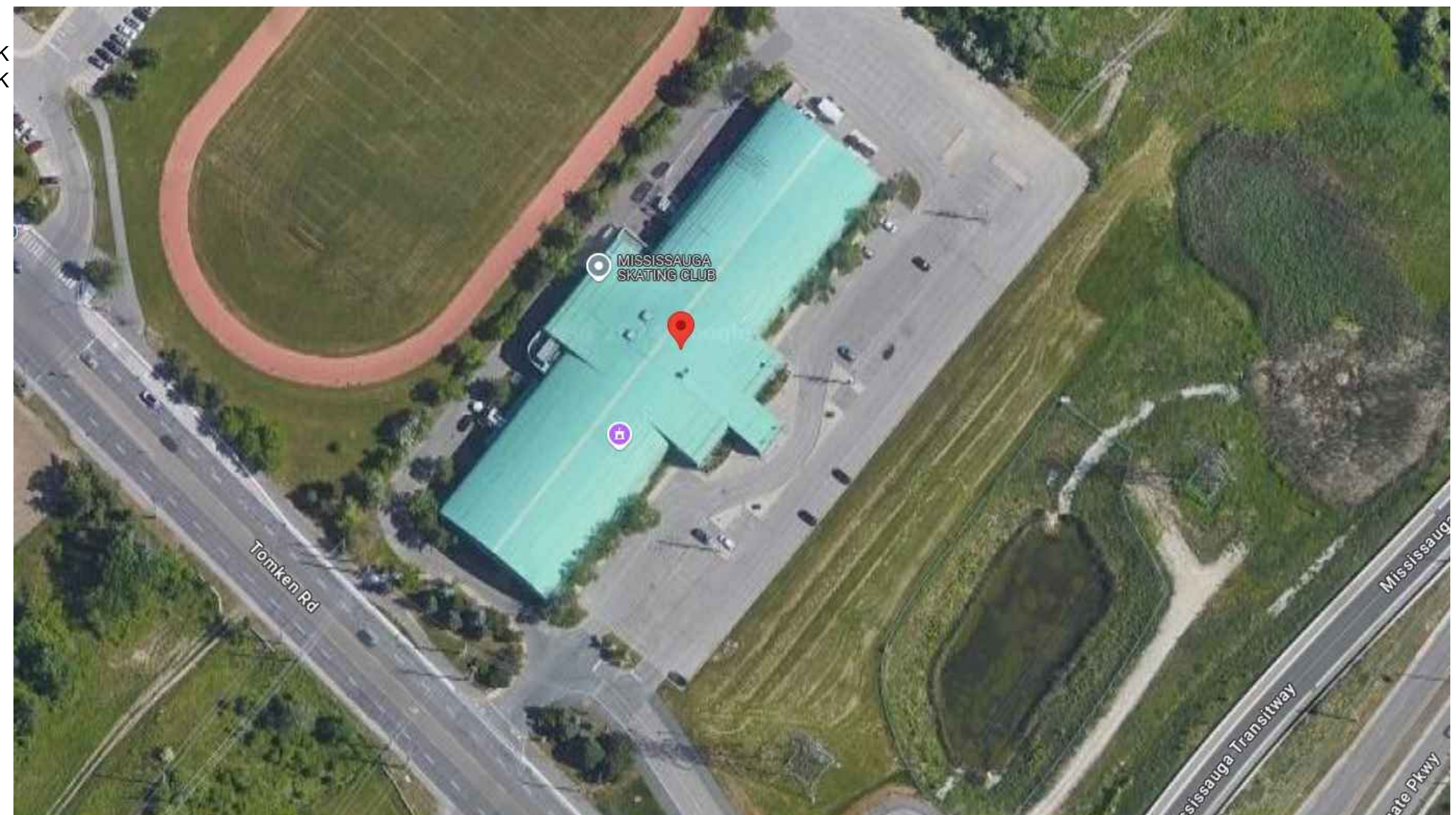
- E-1 ELECTRICAL SERVICES - LEGEND AND SPECIFICATION
- E-2 ELECTRICAL SERVICES - MECHANICAL EQUIPMENT WIRING SCHEDULE
- E-3 ELECTRICAL SERVICES - KEY PLAN
- E-4 ELECTRICAL SERVICES - ELECTRICAL EXISTING/DEMOLITION
- E-5 ELECTRICAL SERVICES - ELECTRICAL NEW WORK
- E-6 ELECTRICAL SERVICES - EXISTING SINGLE LINE DIAGRAM

STRUCTURAL

- S-01 STRUCTURAL NOTES

ARCHITECTURAL

- A0.1 PROJECT STATISTICS - OBC MATRIX- KEY PLAN
- A2.1 GROUND FLOOR: DEMOLITION PLAN - PROPOSED PLAN
- A2.2 SECOND FLOOR: DEMOLITION PLAN - PROPOSED PLAN
- A3.1 INTERIOR ELEVATIONS AND DETAILS



GENERAL NOTES:

- ALL SHUTDOWNS OF ANY PORTION OF EXISTING BASE BUILDING SYSTEMS SHALL BE PERFORMED BY THE LANDLORD'S BUILDING OPERATIONS STAFF AND/OR COORDINATED WITH THE LANDLORD FOR TIME AND DURATION OF INTERRUPTIONS AND ADHERENCE TO THE LANDLORD'S INSTRUCTIONS IN THIS REGARD.
- INCLUDE COST OF PREMIUM TIME IN TENDER PRICE FOR WORK DURING NIGHTS, WEEKENDS, OR OTHER TIMES OUTSIDE NORMAL WORKING HOURS NECESSARY TO MAINTAIN ALL MECHANICAL SERVICES IN OPERATION.
- WORK IN OCCUPIED AREAS, DRILLING OF FLOORS AND WALLS, AND OTHER WORK OPERATIONS THAT MAY CREATE NOISE SHALL BE PERFORMED IN COORDINATION WITH BUILDING MANAGEMENT.
- TIE-INS TO EXISTING SERVICES MUST BE ARRANGED AS ITEM ABOVE.
- ALLOW FOR REVISIONS / CHANGES TO EXISTING INSTALLATIONS IN ORDER TO INSTALL NEW SERVICES AND AT NO EXTRA COST TO THE OWNER.
- ALL EXISTING STRUCTURES AND SERVICES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED TO ORIGINAL STANDARD AND AT NO ADDITIONAL COST TO OWNER.
- CO-OPERATE WITH ALL TRADES INSTALLING EQUIPMENT WHICH MAY AFFECT THE MECHANICAL WORK AND ARRANGE THE WORK IN PROPER RELATION WITH EQUIPMENT INSTALLED UNDER ALL DIVISIONS OF THE CONTRACT FOR THE SATISFACTORY COMPLETION OF THE JOB.
- PROVIDE WHERE SHOWN AND/OR REQUIRED BY SITE CONDITIONS. ALL ACCESS DOORS COMPATIBLE WITH CEILING/WALL TYPES AND FINISHES. MARK IN AN APPROVED MANNER, T-BAR CEILING TILES WHICH ARE USED FOR ACCESS. PROVIDE MILCORE OR APPROVED EQUAL ACCESS DOORS. IN ADDITION, PROVIDE ACCESS DOORS TO ALL EXISTING BUILDING SYSTEMS CLEANOUTS ON VERTICAL STACKS, BACKWATER VALVES AND CEILING SUSPENDED EQUIPMENT. PROVIDE MINIMUM SIZE OF CEILING ACCESS OF 4 SQUARE FEET.
- THE CONTRACTOR SHALL ARRANGE THE SCHEDULE AND PROCEED WITH THE WORK DESCRIBED WITH THE MINIMUM DISTURBANCE AND INTERRUPTION OF EXISTING FACILITIES AND SERVICES.
- ASSUME FULL RESPONSIBILITY FOR LAYOUT OF THE WORK AND FOR ANY DAMAGE CAUSED TO THE OWNER OR OTHERS BY IMPROPER LOCATION OR CARRYING OUT OF THIS WORK.
- SCREEN FLOOR/WALL OR ANY CONCRETE SURFACES PRIOR TO CUTTING OR CORING OPENINGS FOR MECHANICAL PROVISIONING.
- CONTRACTOR SHALL VISIT THE SITE DURING THE TENDER AND REVIEW DRAWINGS WITH THE EXISTING CONDITION AND IDENTIFY ANY DISCREPANCIES OR INTERFERENCES BETWEEN DRAWINGS AND SITE CONDITIONS AND ALLOW IN THEIR PRICING TO MODIFY/ RELOCATE EXISTING SERVICES (CONDUITS, PIPING, DUCTWORK, ETC) FOR INSTALLATION OF NEW SERVICES. ADDITIONAL FEES FOR THE ABOVE WILL NOT BE APPROVED AFTER CLOSING THE TENDER.
- CONTRACTOR SHALL REMOVE CEILING FOR ACCESS TO PIPING ABOVE CEILING WHEN EXISTING PIPING TO BE REMOVED/ NEW PIPING TO BE INSTALLED ABOVE CEILING AND RE-INSTALL CEILING FOLLOWING COMPLETION OF WORK AND PAINT WHOLE CEILING TO MAKE GOOD.
- ALL EXISTING SERVICES SHOWN ARE APPROXIMATE AND BASED ON EXISTING RECORD DRAWINGS AND VISUAL APPEARANCE. CONTRACTOR SHALL VISIT THE SITE PRIOR TO COMMENCING ANY WORK AND VERIFY ALL PIPE LOCATIONS, LAYOUT, CONNECTIONS, PIPE SIZES, ETC.
- THIS DRAWING IS PREPARED TO APPROXIMATELY SHOW LAYOUT OF EXISTING PIPING AND ASSOCIATED EQUIPMENT. CONTRACTOR SHALL REVIEW THESE DRAWINGS ON SITE AND CONFIRM LAYOUT, CONNECTIONS, SIZES, ETC.
- NOT ALL THE EXISTING PIPING ARE SHOWN AND ONLY PIPING RELATED TO THIS PROJECT IS SHOWN ON DRAWINGS. CONTRACTOR SHALL REVIEW ON SITE AND REPORT EXISTENCE OF ADDITIONAL PIPING WHICH MAY HAVE TO BE MODIFIED TO ENSURE PROPER OPERATION OF EXISTING AND NEW SYSTEMS. THESE PIPES SHALL BE IDENTIFIED AND BE MARKED UP ON AS-BUILT DRAWINGS BEFORE SUBMISSION TO DESIGN CONSULTANT.
- ALL ABANDONED PIPING WHICH ARE NO LONGER BEING USED SHALL BE REMOVED FROM THE SITE.
- THE MECHANICAL DRAWINGS DO NOT SHOW ALL THE ARCHITECTURAL AND STRUCTURAL DETAILS AND ANY SPECIFICATION INFORMATION INVOLVING ACCURATE MEASURING OF THE BUILDING DRAWING OR AT THE BUILDING. MAKE WITHOUT ADDITIONAL CHARGE. ANY NECESSARY CHANGES OR ADDITIONS TO THE RUNS OF PIPING AND DUCTS TO ACCOMMODATE THE ABOVE CONDITION.
- ALL THE PIPE SIZE SHALL BE VERIFIED ON SITE BY CONTRACTOR. SIZE OF EXISTING PIPING WHICH IS NOT IDENTIFIED ON DRAWINGS SHALL BE INVESTIGATED BY CONTRACTOR ON SITE AND BE RECORDED ON AS-BUILT DRAWINGS.
- CONTRACTOR SHALL ENSURE PRIOR TO REMOVAL OF ANY PIPING THAT THE SYSTEM IS COMPLETELY ISOLATED AND IS NOT ALIVE.
- WHERE PIPING IS INDICATED TO BE REMOVED, REMOVAL SHALL BE C/W INSULATION, SUPPORTS, VALVING, ETC. CAP PIPING WHERE INDICATED.
- WHERE DUCTWORK IS INDICATED TO BE DEMOLISHED, REMOVAL SHALL BE C/W INSULATION, SUPPORTS, GRILLES / DIFFUSERS, DAMPERS (FIRE & BALANCING), ETC. CUT BACK DUCTWORK TO CAPPED LOCATIONS / NEW CONNECTIONS INDICATED ON RENOVATION PLAN.
- WHERE EXIST PIPE & DUCT SIZES HAVE BEEN INDICATED, THEY ARE APPROXIMATE ONLY & SHALL BE VERIFIED ON SITE (IF REQ'D). WHERE EXIST SIZES HAVE NOT BEEN INDICATED, THEY COULD NOT BE DETERMINED & SHALL BE DETERMINED ON SITE BY THE CONTR (IF REQ'D).
- COORDINATE ALL SERVICES WITH EACH DIVISION BEFORE INSTALLATION OF PIPES. ALL PIPING SHALL BE ROUTED ON SITE TO CLEAR OTHER PIPING, DUCTWORK, BLDG STRUCTURE, ETC. NOTE THAT DRAWINGS ARE SCHEMATIC IN NATURE ONLY & THAT ALL WORK MUST BE COORDINATED ON SITE.
- VERIFY EXACT LOCATION, SIZE, ETC OF ALL EXISTING SYSTEMS PRIOR TO INSTALLATION OF NEW SYSTEMS & ADJUST WORK AS REQ'D.
- PATCH OPENING TO SUIT NEW PIPE SIZE & MAINTAIN SMOKE / FIRE SEPARATION.
- VALVES ARE INSTALLED AT HIGH LEVEL SHALL HAVE CHAIN.

SCOPE OF WORK:

- REPLACE/ADD/RELOCATE/MODIFICATION TO EQUIPMENT/SERVICES BUT NOT LIMITED TO:
- DEMOLISH EXISTING BOILERS C/W ALL ASSOCIATE PIPING, BREECHING, ELECTRICAL AND CONTROL. DOMESTIC WATER TANKS, PUMPS AS SHOWN ON DRAWINGS.
- INSTALL NEW BOILERS C/W ALL ASSOCIATE EQUIPMENT, TREATMENT SYSTEM, PIPING, BREECHING, ELECTRICAL, CONTROL AS SHOWN ON THE DRAWINGS.
- INSTALL NEW DOMESTIC WATER TANKS, HEAT EXCHANGER, EXHAUST FAN AND UNIT HEATERS, C/W ALL ASSOCIATE EQUIPMENT PIPING, ELECTRICAL CONTROL AS SHOWN ON THE DRAWINGS.
- INSTALL NEW HEAT PUMP AND HEAT EXCHANGER FOR HEAT RECOVERY FROM CONDENSER.
- PARTIAL FLOORING REPLACEMENT ON THE 2ND FLOOR, INCLUDING TWO STAIRS AND THEIR ASSOCIATED LANDINGS; MILLWORK REPLACEMENT IN THE 2ND FLOOR MEETING ROOM; NEW FLOORING FINISH IN THE GROUND FLOOR MECHANICAL/BOILER ROOM; REPLACEMENT OF 1 OVERHEAD DOOR ON THE GROUND FLOOR; AND ANY CAULKING, INFILLING, OR MAKE-GOOD WORK ASSOCIATED WITH THE MECHANICAL WORK BEING COMPLETED.
- CONTRACTOR TO PROVIDE ALL NEW LAMACOIDS FOR ALL EXISTING AND NEW EQUIPMENT IN THE GROUND FLOOR (BOILER) ROOM, AS WELL AS UPDATE TAGS TO THE LATEST CITY NAMING STANDARD. THIS ALSO NEEDS TO BE REFLECTED IN THE BAS GRAPHICS.
- FURNISH ALL LABOR, MATERIALS, EQUIPMENT, TOOLS AND SUPPORTS AS WELL AS SUPERVISION TO PROVIDE A COMPLETE INSTALLATION, TESTED AND IN WORKING ORDER, AS SHOWN ON THE DRAWINGS.
- REMOVAL AND DISPOSAL OF THE EQUIPMENT.
- MAKE GOOD ALL DAMAGES TO CEILINGS, WALLS, EXISTING EQUIPMENT AND/OR SYSTEM.
- COORDINATE WORK AND WORKING HOURS WITH THE OWNER AND OTHER TRADES TO MINIMIZE DISRUPTION WHERE WORK INTERRUPTS OR INTERFERES WITH BUILDING OCCUPANTS. MAKE ALL NECESSARY ARRANGEMENTS WITH THE LANDLORD OR FACILITY MANAGER FOR A SUITABLE TIME PERIOD FOR THE WORK OR SYSTEM SHUT-DOWN TO OCCUR. LIFE SAFETY SYSTEMS ARE NOT TO BE LEFT INOPERABLE DURING UNSUPERVISED TIMES OF THE DAY, AND SHALL BE FULLY OPERATIONAL AT THE END OF EACH WORKING DAY.
- CONTRACTOR TO ALLOW FOR REPAIR OF HOLES IN FLOORS/CEILING/WALLS WHERE EXISTING RISERS/PIPING/CONDUITS WILL BE REMOVED OR NEW RISES/PIPING WILL BE INSTALLED. REPAIR OF FLOORS/CEILING/WALLS TO MATCH EXISTING AREA. ALLOW FOR REPAIR OF ADDITIONAL 14"x14" AREA AT EACH LOCATION OF CUT BY ABATEMENT CONTRACTOR.
- CONTRACTOR TO ALLOW FOR REPAIR AND REPAINTING OF ALL WALLS AFFECTED BY INSTALLATION OF NEW WORKS.
- CONTRACTOR TO PAINT THE ENTIRE FLOOR OF THE BOILER ROOM.
- ALLOW FOR RE-INSULATION OF REMOVED INSULATION AS A RESULT OF ASBESTOS ABATEMENT.
- CONTRACTOR TO PRE-AUDIT FOR EXISTING PUMPS TO CONFIRM FLOWS AND HEADS. INFORM THE CONSULTANT BEFORE DEMOLITION.

HVAC

DOUBLE LINE	SINGLE LINE
	XX
	XØ
	XØ
	XX

EQUIPMENT MARK NO.
 "XX" - WALL FIN NUMBER
 "Q" - TOTAL HEATING (BTU/HR)
 "L" - TOTAL LENGTH OF FIN ELEMENT (INCH)

EQUIPMENT MARK NO.
 "XX" - UNIT VENTILATOR NUMBER
 "Q" - TOTAL HEATING (BTU/HR)

EQUIPMENT MARK NO.
 "XX" - UNIT HEATER NUMBER
 "Q" - TOTAL HEATING (BTU/HR)

EQUIPMENT MARK NO.
 "XX" - FORCED FLOW HEATER NUMBER
 "Q" - TOTAL HEATING (BTU/HR)

CONTROLS:

- REFRIGERANT LEAK DETECTOR
- TEMPERATURE SENSOR / TRANSMITTER / SWITCH
- HUMIDITY SENSOR / TRANSMITTER / SWITCH
- PRESSURE SENSOR / TRANSMITTER / SWITCH
- LEVEL SENSOR / TRANSMITTER / SWITCH
- HIGH TEMPERATURE SENSOR
- LOW TEMPERATURE SENSOR
- LEAD/LAG CONTROLLER
- HYDROGEN SENSOR
- THERMOSTAT

ABBREVIATIONS

AFF - ABOVE FINISHED FLOOR
 AHU - AIR HANDLING UNIT
 BOD EL. - BOTTOM OF DUCT ELEVATION
 BOP EL. - BOTTOM OF PIPE ELEVATION
 C EL. - CENTRELINE ELEVATION
 CU - CONDENSING UNIT OR GLYCOL DRY COOLER
 CTE - CONNECT TO EXISTING
 CO - CLEANOUT
 EA - EXHAUST AIR
 EF - EXHAUST FAN
 FFL - FINISHED FLOOR ELEVATION
 FA - FROM ABOVE
 FB - FROM BELOW
 FFD - FUNNEL FLOOR DRAIN
 OA - OUTSIDE AIR
 NC - NORMALLY CLOSED
 NIC - NOT IN CONTRACT
 NO - NORMALLY OPEN
 NPS - NOMINAL PIPE SIZE
 TOD - TOP OF DUCT ELEVATION
 TOP - TOP OF PIPE ELEVATION
 TYP - TYPICAL
 EFF - ELECTRIC FORCE FLOW HEATER
 BCP - BAS CONTROL PANEL
 SF - SUPPLY FAN
 MUA - MINI MAKEUP AIR UNIT
 (X) - REFERENCE NOTE 'X'

PIPING

	HOT WATER SUPPLY
	HOT WATER RETURN
	DOMESTIC COLD WATER
	DOMESTIC HOT WATER
	HOT WATER RETURN
	STEAM PIPE
	STEAM CONDENSATE PIPE
	SANITARY PIPE
	NEW PIPING
	EXISTING PIPING TO REMAIN
	EXISTING PIPING/EQUIPMENT TO BE REMOVED
	GATE VALVE
	GLOBE VALVE
	PLUG VALVE
	BUTTERFLY VALVE
	BALL VALVE
	DRAIN VALVE WITH HOSE CONNECTION
	CHECK VALVE
	PRESSURE REDUCING VALVE
	BALANCING VALVE
	TWO-WAY CONTROL VALVE
	THREE-WAY CONTROL VALVE
	AUTOMATIC AIR VENT
	MANUAL AIR VENT
	PRESSURE RELIEF VALVE
	'Y' TYPE STRAINER
	UNION
	PIPE END CAP
	PIPE ANCHOR
	PIPE LINE GUIDE
	THERMOMETER
	PRESSURE GAUGE AND COCK

FIRE PROTECTION

	SPRINKLER FEED MAINS
	PREACTION SPRINKLER FEED MAINS
	FIRE SUPPRESSION PIPE
	STANDPIPE
	SPRINKLER HEAD - UPRIGHT
	SPRINKLER HEAD - PENDANT
	RECESSED (PENDANT FLUSH) SPRINKLER HEAD
	FIRE SUPPRESSION AGENT DISCHARGE NOZZLE
	SUPERVISED VALVE
	FLOW SWITCH
	PRESSURE SWITCH
	FIRE EXTINGUISHER
	FIRE EXTINGUISHER C/W CABINET
	FIRE HOSE CABINET
	FIREFLEX CABINET

PIPING SYMBOL

	Rising UP
	T BRANCH - DOWN
	ELBOW - DOWN
	T - UP/DOWN

REV.	DATE	DESCRIPTION
3	2024-DEC-11	ISSUED FOR PERMIT AND TENDER
2	2024-DEC-04	ISSUED FOR 100% REVIEW
1	2024-NOV-15	ISSUED FOR 90% REVIEW
0	2024-OCT-24	ISSUED FOR 50% REVIEW

Key Plan	True North
P.N. = PROJECT NORTH T.N. = TRUE NORTH	

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Drawing Overall Scale: AS SHOWN

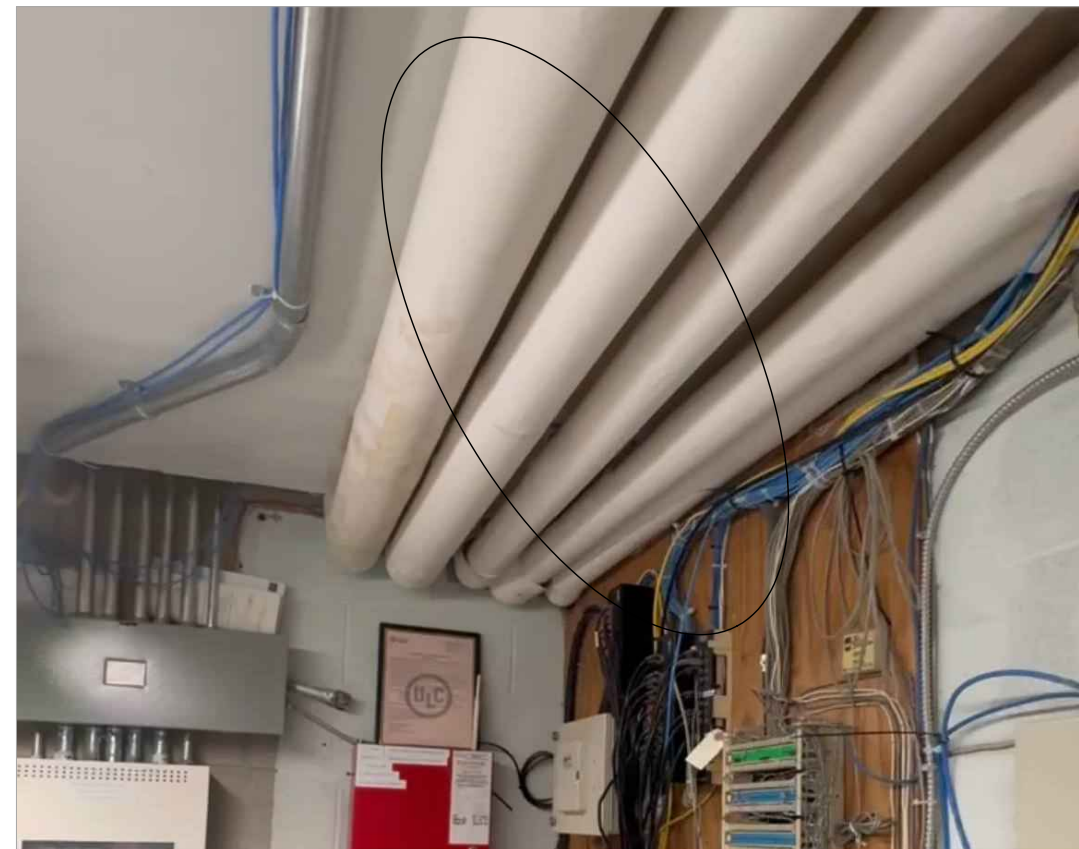
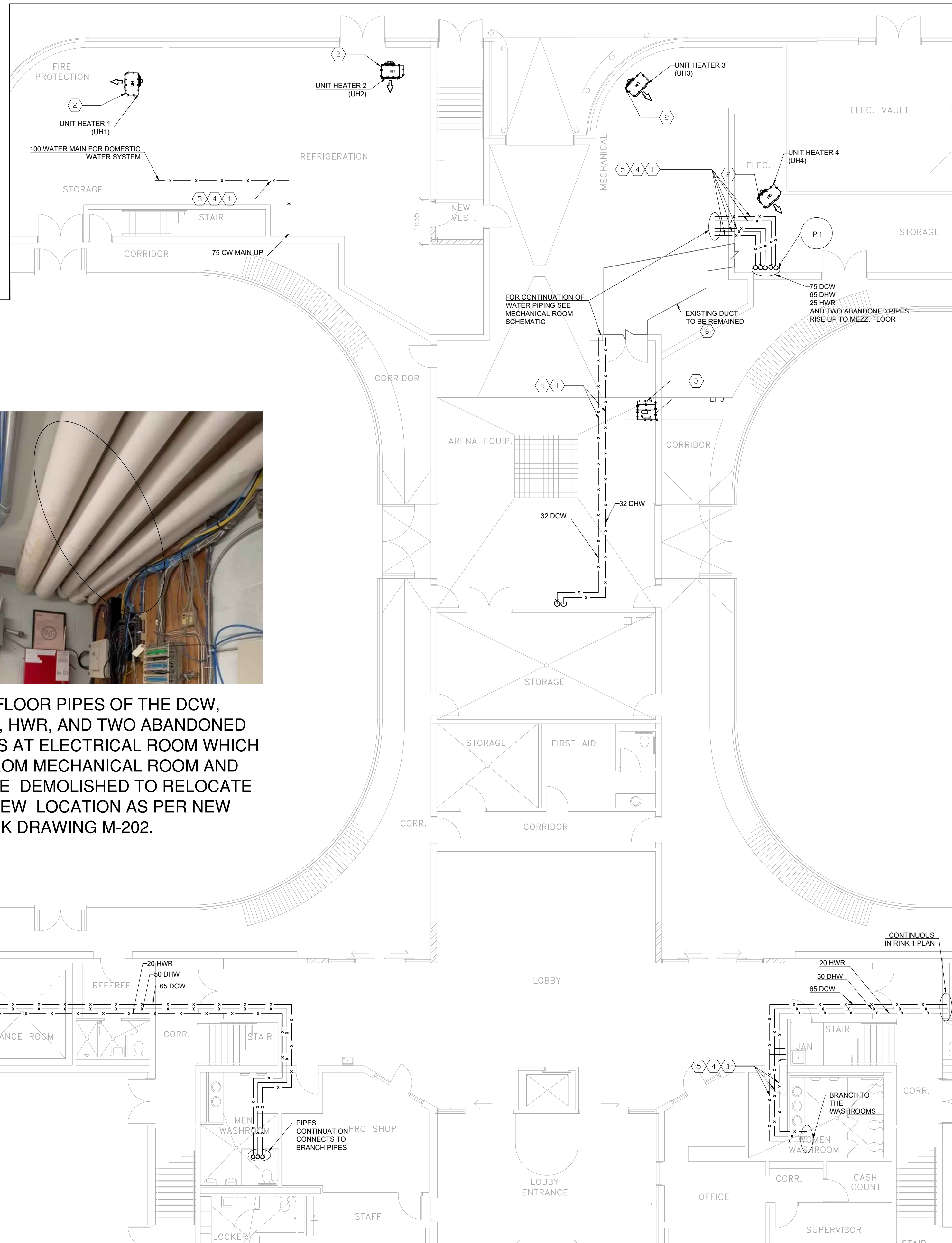
Project Name & Address:
TOMKEN TWIN ARENA
 MECHANICAL AND VARIOUS BUILDING LIFECYCLE RENEWALS
 4495 TOMKEN RD, MISSISSAUGA, ON L4W 1J9

Drawing Title:
MECHANICAL SERVICES
 GENERAL NOTES, LEGEND AND SCOPE

DATE: 24-OCT-2024 DESIGNED BY: A.M DRAWN BY: A.M APPROVED BY: M.A. PROJECT NO.: 1024104	Engineer / Architect Stamp
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DEMOLITION NOTES:
-CONTRACTOR TO VERIFY EXACT LOCATION OF PIPING AND EXACT LOCATION OF EQUIPMENTS CONNECTIONS ON SITE.

1. CONTRACTOR TO DEMOLISH THE EXISTING DOMESTIC COLD WATER, HOT WATER, HOT WATER RETURN PIPES AND TWO ABANDONED PIPES C/W SHUT-OFF VALVES, PUMP AND ALL ASSOCIATED EQUIPMENT, ASSOCIATED CONNECTION, SUPPORT AND INSULATION. VALVES, SUPPORT AND TRAP UNDER CEILING, EXPOSE AND IN THE TRENCH. ALL INACCESSIBLE LOCATIONS SUCH AS CHASES, WALLS, TUNNELS TO BE ABANDONED. CONTRACTOR TO REPAIR FIX CEILING, FLOORS AND WALLS TO MATCH THE EXISTING IF OPENING USED FOR NEW PIPE LAYOUT. MAKE LOCATION READY FOR NEW WORK.
2. DEMOLISH EXISTING UNIT HEATER C/W SHUT OFF VALVE. MAKE LOCATION READY FOR NEW INSTALLATION. UNIT HEATERS C/W ALL ASSOCIATED MECHANICAL, CONTROL, DAMPERS, HUMIDIFIERS, VALVES CONNECTION PIPES. ENCLOSURE MAKE LOCATION READY FOR NEW INSTALLATION. THE CONTRACTOR IS TO ALLOW THE REPAIR OF ALL AREAS AFFECTED BY THE REMOVAL OF THE EQUIPMENT, INCLUDING SEALING, PAINTING, AND FILLING THE OPENINGS TO MATCH EXISTING ONES.
3. DEMOLISH EXISTING EXHAUST FAN, MODIFY THE EXISTING DUCT AND MAKE READY FOR NEW EXHAUST FAN. REFER TO NEW WORK PLAN FOR MORE DETAILS.
4. CONTRACTOR TO ALLOW FOR REMOVAL/RE-INSTALLATION OF ALL SERVICES ASSOCIATED WORKS AT T-BAR CEILING, DRY WALL CEILING, TRENCH AND PLASTER CEILING AND UNINSTALL/INSTALL MECHANICAL SERVICES.
5. CONTRACTOR TO INCLUDE REMOVAL, REPAIR AND RE-INSTALLING WALLS, T-BAR AND DRY WALL CEILING, MILLWORKS, DOOR FRAME AND ALL PARTITIONS IN ORDER TO REMOVE PIPING AS REQUIRED.
6. EXISTING DUCTWORK TO REMAIN. MAKE IT READY FOR NEW WORK.

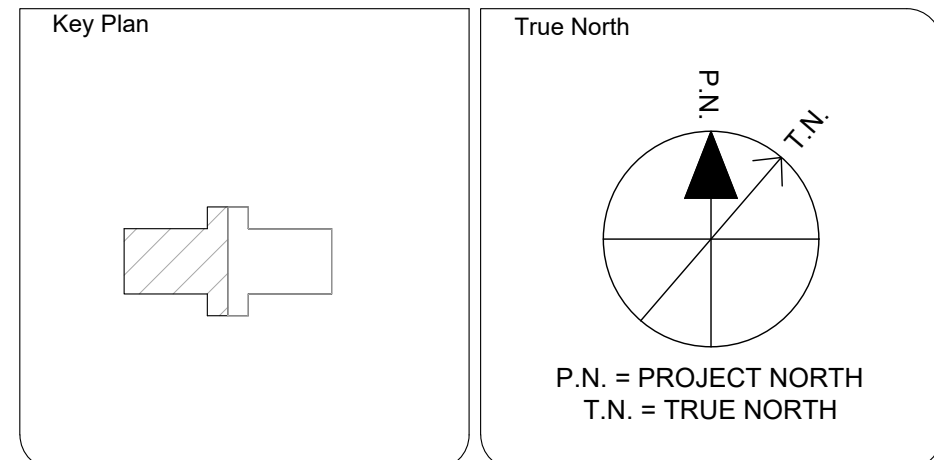


P.1. 1ST FLOOR PIPES OF THE DCW, DHW, HWR, AND TWO ABANDONED PIPES AT ELECTRICAL ROOM WHICH IS FROM MECHANICAL ROOM AND TO BE DEMOLISHED TO RELOCATE TO NEW LOCATION AS PER NEW WORK DRAWING M-202.

RINK 2

- GENERAL NOTES:**
1. ALL EXISTING SERVICES SHOWN HAS BEEN EXTRACTED FROM AVAILABLE BASE BUILDING DRAWINGS AND RANDOM SITE SURVEYS. NOT ALL EXISTING SERVICES/ITE INFORMATION HAS BEEN SHOWN NOR CAN THE INFORMATION SHOWN BE GUARANTEED FOR PRECISE ACCURACY. CONTRACTOR SHALL THEREFORE VISIT THE SITE PRIOR TO SUBMITTING A BID TO SATISFY THEMSELVES THAT ALL WORK SHOWN AND/OR SPECIFIED CAN BE CARRIED OUT IN ACCORDANCE WITH THE CONTRACT DOCUMENT.
 2. ALL EXISTING EQUIPMENT TAG NOS. USED ON THIS DRAWING ARE BASED ON EXISTING BASE BUILDING STANDARDS.
 3. ALL CUTTING/CHANGING/CORNER OF WALLS AND FLOORS REQUIRED TO ACCOMMODATE NEW MECHANICAL WORK IS TO BE AWARDED AND PAID FOR BY MECHANICAL CONTRACTOR. X-RAY FLOORS/CONCRETE WALLS PRIOR TO CORNER/CUTTING.
 4. THE MECHANICAL DRAWINGS DO NOT SHOW ALL THE ARCHITECTURAL AND STRUCTURAL DETAILS. ANY SPECIFIC INFORMATION INVOLVING ACCURATE MEASURING OF THE BUILDING SHALL BE TAKEN FROM THE BUILDING DRAWINGS OR AT THE BUILDING. MAKE WITHOUT ADDITIONAL CHARGE. ANY NECESSARY CHANGES OR ADDITIONS TO THE RUNS OF DUCTS AND PIPES TO ACCOMMODATE THE ABOVE CONDITIONS.
 5. COORDINATE WITH ALL OTHER TRADES AND SITE SUPERINTENDENT ON ALL WORK.
 6. ALL ABANDONED PIPING WHICH ARE NO LONGER BEING USED SHALL BE REMOVED FROM THE SITE. CONTRACTOR SHALL ENSURE PRIOR TO REMOVAL OF ANY PIPING THAT THE SYSTEM IS COMPLETELY ISOLATED AND IS NOT ALIVE.
 7. WORK SHALL INCLUDE STARTUP OF ALL SYSTEMS, FURNISHING OF OPERATING AND MAINTENANCE INSTRUCTIONS AND ONE (1) YEAR GUARANTEE, COMMENCING ON THE DATE OF ACCEPTANCE BY THE TENANT.
 8. ALL ROOFING AND PENETRATIONS SHALL BE DONE IN STRICT ACCORDANCE WITH STANDARD DETAILS AND ONLY BY APPROVED ROOFING TRADES. IF THE ROOF IS UNDER WARRANTY, ONLY THE WARRANTY HOLDER SHALL BE RETAINED TO PERFORM THE WORK.
 9. REMOVE ALL EXISTING PNEUMATIC CONTROL DEVICES. NEW CONTROL SYSTEM TO BE DDC AND CONNECTED TO BAS.
 10. ALL REDUNDANT WALL / ROOF OPENINGS SHALL BE SEALED AND FIRE STOPPED AS REQUIRED.
 11. CONTRACTOR TO INCLUDE REMOVAL/CUTTING OF WALL/FLOOR/CEILING AND REPAIR/PAINTING/REPAIR/PAINTING TO MATCH EXISTING WHERE REQUIRED FOR DEMOLITION AND INSTALLATION OF NEW PIPES.
 12. CONTRACTOR TO PROVIDE PROTECTION FOR ALL EXISTING DUCTWORK DURING CONSTRUCTION FROM DUST AND DEBRIS.
 13. ALL PIPING MUST BE SUPPORTED FROM ROOF/CILING STRUCTURE. THE INSTALLATION DETAILS MUST BE SUBMITTED TO THE CONSULTANT FOR REVIEW.
 14. CONTRACTOR SHALL ALLOW FOR RELOCATION/REPAIR AND RE-INSTALLATION OF WIRING, CONDUITS, LIGHTING WHERE THE NEW PIPING WILL BE INSTALLED.
 15. CONTRACTOR SHALL ALLOW FOR ALL THE WORK RELATED TO DEMOLITION AND FIXING WALL AND DRYWALL, CEILING AND ETC.
 16. CONTRACTOR TO CHEMICALLY WASH AND CLEAN ALL THE EXISTING HWS/HWR PIPING.
 17. CONTRACTOR TO PROVIDE WATER FLOW PRE ADIT TO CONFIRM THE EXISTING FLOW RATE PRIOR TO DEMOLITION WORK AND SUBMIT REPORT TO CONSULTANT.

REV.	DATE	DESCRIPTION
3	2024-DEC-11	ISSUED FOR PERMIT AND TENDER
2	2024-DEC-04	ISSUED FOR 100% - REVIEW
1	2024-NOV-15	ISSUED FOR 90% - REVIEW
0	2024-OCT-22	ISSUED FOR 50% - REVIEW



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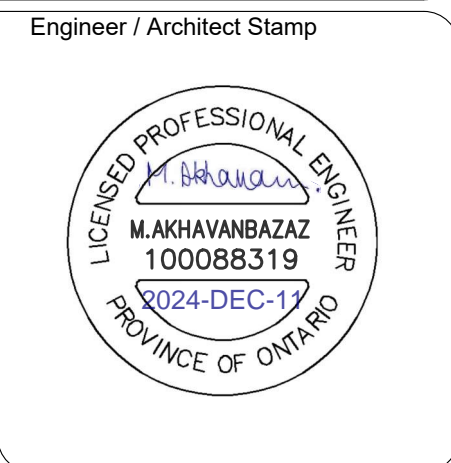
Client

Drawing Overall Scale
 AS SHOWN

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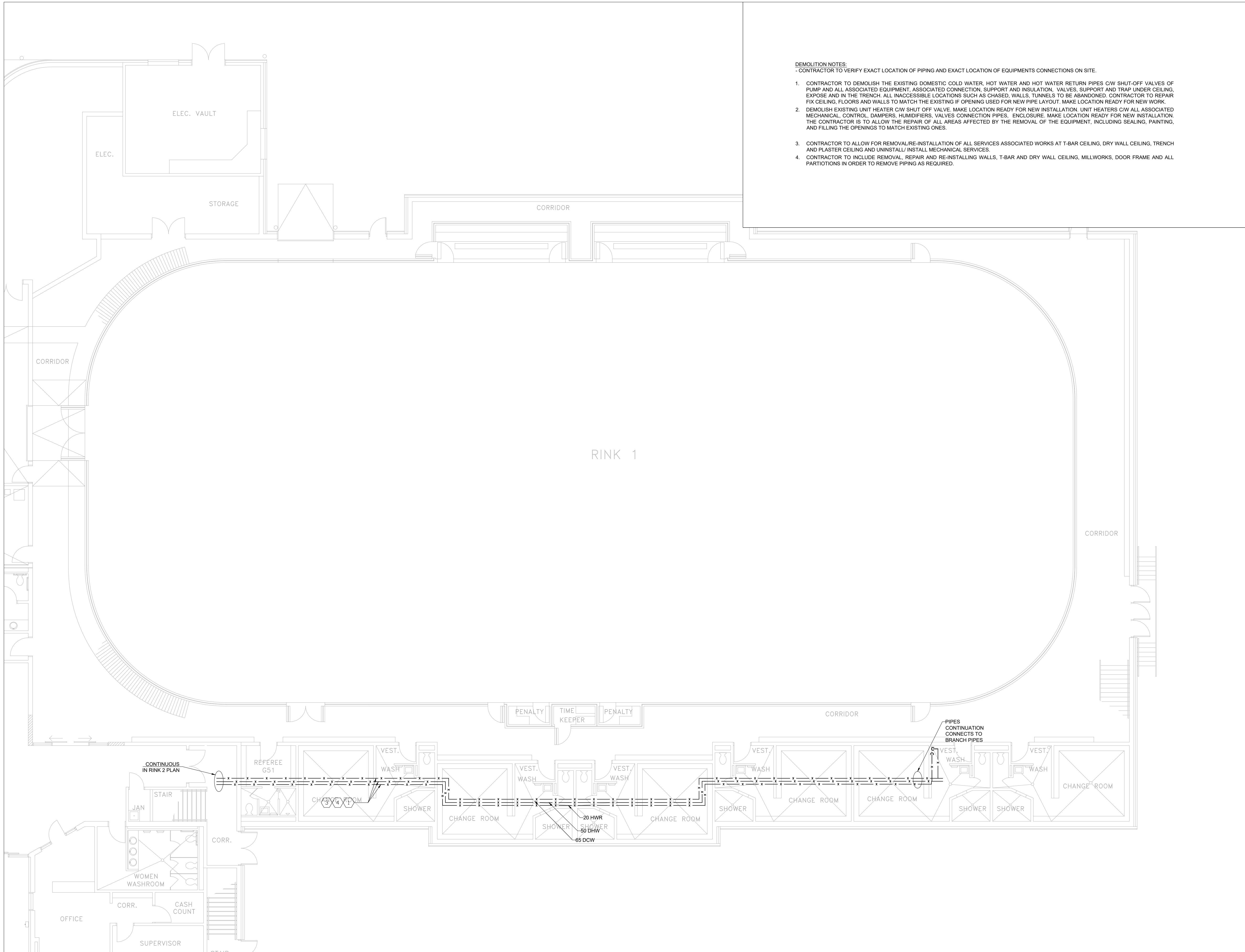
Drawing Title
MECHANICAL SERVICES
 MECHANICAL PLAN- PLUMBING LAYOUT- EXISTING/DEMOLISH
 1ST FLOOR- RINK 2

DATE: 16/09/2024
 DESIGNED BY: A.M.
 DRAWN BY: A.M.
 APPROVED BY: M.A.
 PROJECT NO.: 1024104



1 MECHANICAL PLAN- PLUMBING LAYOUT- 1ST FLOOR- RINK2- EXISTING/DEMOLISH

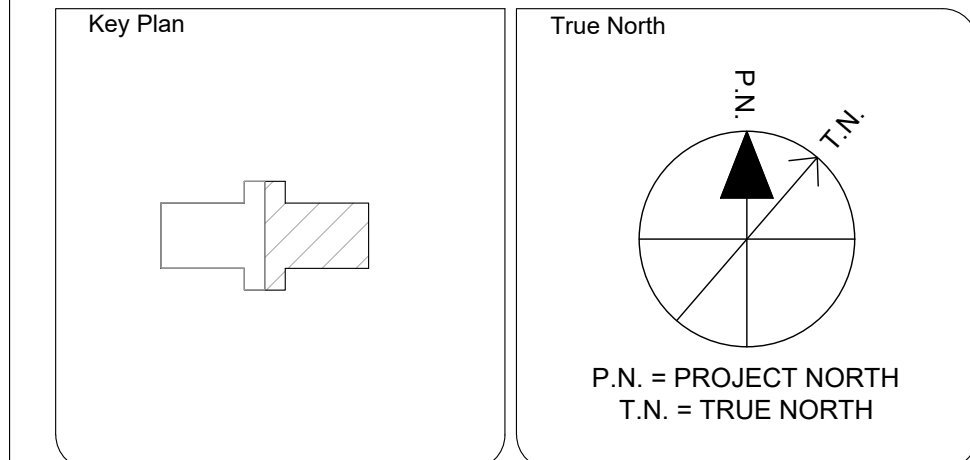
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- DEMOLITION NOTES:**
 - CONTRACTOR TO VERIFY EXACT LOCATION OF PIPING AND EXACT LOCATION OF EQUIPMENTS CONNECTIONS ON SITE.
- CONTRACTOR TO DEMOLISH THE EXISTING DOMESTIC COLD WATER, HOT WATER AND HOT WATER RETURN PIPES CW SHUT-OFF VALVES OF PUMP AND ALL ASSOCIATED EQUIPMENT, ASSOCIATED CONNECTION, SUPPORT AND INSULATION, VALVES, SUPPORT AND TRAP UNDER CEILING, EXPOSE AND IN THE TRENCH. ALL INACCESSIBLE LOCATIONS SUCH AS CHASES, WALLS, TUNNELS TO BE ABANDONED. CONTRACTOR TO REPAIR FIX CEILING, FLOORS AND WALLS TO MATCH THE EXISTING IF OPENING USED FOR NEW PIPE LAYOUT. MAKE LOCATION READY FOR NEW WORK.
 - DEMOLISH EXISTING UNIT HEATER CW SHUT OFF VALVE. MAKE LOCATION READY FOR NEW INSTALLATION. UNIT HEATERS CW ALL ASSOCIATED MECHANICAL, CONTROL, DAMPERS, HUMIDIFIERS, VALVES CONNECTION PIPES, ENCLOSURE. MAKE LOCATION READY FOR NEW INSTALLATION. THE CONTRACTOR IS TO ALLOW THE REPAIR OF ALL AREAS AFFECTED BY THE REMOVAL OF THE EQUIPMENT, INCLUDING SEALING, PAINTING, AND FILLING THE OPENINGS TO MATCH EXISTING ONES.
 - CONTRACTOR TO ALLOW FOR REMOVAL/RE-INSTALLATION OF ALL SERVICES ASSOCIATED WORKS AT T-BAR CEILING, DRY WALL CEILING, TRENCH AND PLASTER CEILING AND UNINSTALL/INSTALL MECHANICAL SERVICES.
 - CONTRACTOR TO INCLUDE REMOVAL, REPAIR AND RE-INSTALLING WALLS, T-BAR AND DRY WALL CEILING, MILLWORKS, DOOR FRAME AND ALL PARTITIONS IN ORDER TO REMOVE PIPING AS REQUIRED.

- GENERAL NOTES:**
- ALL EXISTING SERVICES SHOWN HAS BEEN EXTRACTED FROM AVAILABLE BASE BUILDING DRAWINGS AND RANDOM SITE SURVEYS. NOT ALL EXISTING SERVICES INFORMATION HAS BEEN SHOWN NOR CAN THE INFORMATION SHOWN BE GUARANTEED FOR PRECISE ACCURACY. CONTRACTOR SHALL THEREFORE VISIT THE SITE PRIOR TO SUBMITTING A BID TO SATISFY THEMSELVES THAT ALL WORK SHOWN AND/OR SPECIFIED CAN BE CARRIED OUT IN ACCORDANCE WITH THE CONTRACT DOCUMENT.
 - ALL EXISTING EQUIPMENT TAG NOS. USED ON THIS DRAWING ARE BASED ON EXISTING BASE BUILDING STANDARDS.
 - ALL CUTTING/PATCHING/WORKING OF WALLS AND FLOORS REQUIRED TO ACCOMMODATE NEW MECHANICAL WORK IS TO BE ARRANGED AND PAID FOR BY MECHANICAL CONTRACTOR. J-RAY FLOORS/CONCRETE WALLS PRIOR TO CORING/CUTTING.
 - THE MECHANICAL DRAWINGS DO NOT SHOW ALL THE ARCHITECTURAL AND STRUCTURAL DETAILS. ANY SPECIFIC INFORMATION INVOLVING ACCURATE MEASUREMENTS OF THE BUILDING SHALL BE TAKEN FROM THE BUILDING DRAWINGS OR AT THE BUILDING. MAKE WITHOUT ADDITIONAL CHARGE. ANY NECESSARY CHANGES OR ADDITIONS TO THE RUNS OF DUCTS AND PIPES TO ACCOMMODATE THE ABOVE CONDITIONS.
 - COORDINATE WITH ALL OTHER TRADES AND SITE SUPERINTENDENT ON ALL WORK.
 - ALL ABANDONED PIPING WHICH ARE NO LONGER BEING USED SHALL BE REMOVED FROM THE SITE. CONTRACTOR SHALL ENSURE PRIOR TO REMOVAL OF ANY PIPING THAT THE SYSTEM IS COMPLETELY ISOLATED AND IS NOT ALIVE.
 - WORK SHALL INCLUDE STARTUP OF ALL SYSTEMS, FURNISHING OF OPERATING AND MAINTENANCE INSTRUCTIONS, AND ONE (1) YEAR GUARANTEE, COMMENCING ON THE DATE OF ACCEPTANCE BY THE TENANT.
 - ALL ROOFING AND PENETRATIONS SHALL BE DONE IN STRICT ACCORDANCE WITH STANDARD DETAILS AND ONLY BY APPROVED ROOFING TRADES. IF THE ROOF IS UNDER WARRANTY, ONLY THE WARRANTY HOLDER SHALL BE RETAINED TO PERFORM THE WORK.
 - REMOVE ALL EXISTING PNEUMATIC CONTROL DEVICES. NEW CONTROL SYSTEM TO BE DDC AND CONNECTED TO BAS.
 - ALL REDUNDANT WALL / ROOF OPENINGS SHALL BE SEALED AND FIRE-STOPPED AS REQUIRED.
 - CONTRACTOR TO INCLUDE REMOVAL/CUTTING OF WALLS/DOORWAYS AND RE-INSTALLING/REPAIRING/PATCHING TO MATCH EXISTING WHERE REQUIRED FOR DEMOLITION AND INSTALLATION OF NEW PIPES.
 - CONTRACTOR TO PROVIDE PROTECTION FOR ALL EXISTING DUCTWORK DURING CONSTRUCTION FROM OUST AND SERIES.
 - ALL PIPING MUST BE SUPPORTED FROM ROOF/CILING STRUCTURE. THE INSTALLATION DETAILS MUST BE SUBMITTED TO THE CONSULTANT FOR REVIEW.
 - CONTRACTOR SHALL ALLOW FOR RELOCATION/REMOVAL AND RE-INSTALLATION OF WIRING, CONDUITS, LIGHTING WHERE THE NEW PIPING WILL BE INSTALLED.
 - CONTRACTOR SHALL ALLOW FOR ALL THE WORK RELATED TO DEMOLITION AND FIXING WALL AND DRYWALL, CEILING AND ETC.
 - CONTRACTOR TO CHEMICALLY WASH AND CLEAN ALL THE EXISTING HIGHWATER PIPING.
 - CONTRACTOR TO PROVIDE WATER FLOW PRE ADJUST TO CONFIRM THE EXISTING FLOW RATE PRIOR TO DEMOLITION WORK AND SUBMIT REPORT TO CONSULTANT.

REV.	DATE	DESCRIPTION
3	2024-DEC-11	ISSUED FOR PERMIT AND TENDER
2	2024-DEC-04	ISSUED FOR 100% - REVIEW
1	2024-NOV-15	ISSUED FOR 90% - REVIEW
0	2024-OCT-22	ISSUED FOR 50% - REVIEW



Engineer Logo

 Spectra Engineering
 250 SHEPPARD AVE EAST, SUITE 606, TORONTO, ONTARIO, M2N 6M9
 TEL: (416) 478-5158
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Client

 MISSISSAUGA

Drawing Overall Scale
 AS SHOWN

Project Name & Address
TOMKEN TWIN ARENA
 MECHANICAL AND VARIOUS BUILDING LIFECYCLE RENEWALS
 4495 TOMKEN RD, MISSISSAUGA, ON L4W 1J9

Drawing Title
MECHANICAL SERVICES
 MECHANICAL PLAN- PLUMBING LAYOUT- EXISTING/DEMOLISH
 1ST FLOOR- RINK 1

DATE: 16/09/2024
 DESIGNED BY: A.M.
 DRAWN BY: A.M.
 APPROVED BY: M.A.
 PROJECT NO.: 1024104

Engineer / Architect Stamp

1

MECHANICAL PLAN- PLUMBING LAYOUT- 1ST FLOOR- RINK1- EXISTING/DEMOLISH

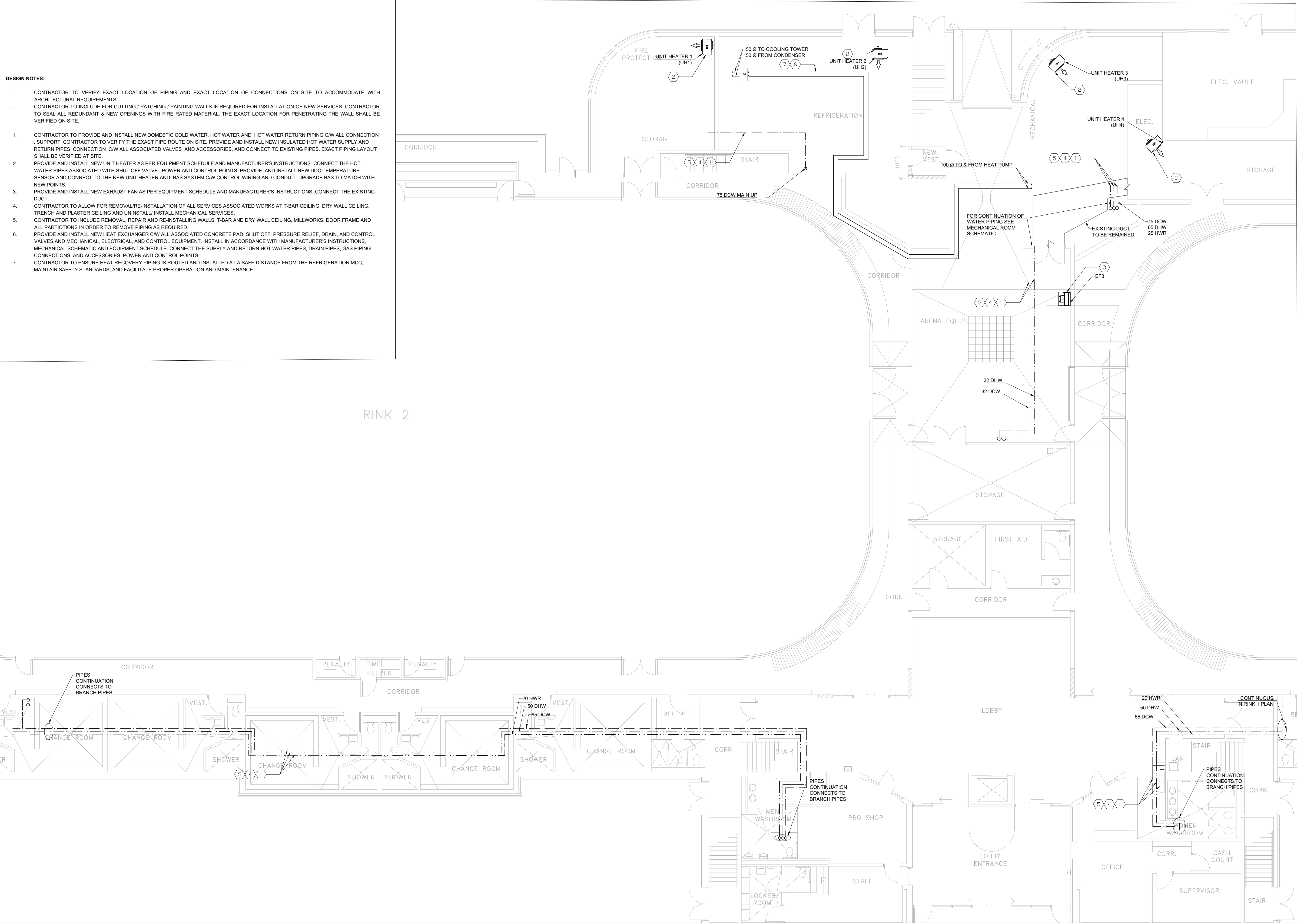
Scale: 1:100

Drawing No.
M- 201

DESIGN NOTES:

- CONTRACTOR TO VERIFY EXACT LOCATION OF PIPING AND EXACT LOCATION OF CONNECTIONS ON SITE TO ACCOMMODATE WITH ARCHITECTURAL REQUIREMENTS.
- CONTRACTOR TO INCLUDE FOR CUTTING / PATCHING / PAINTING WALLS IF REQUIRED FOR INSTALLATION OF NEW SERVICES. CONTRACTOR TO SEAL ALL REDUNDANT & NEW OPENINGS WITH FIRE RATED MATERIAL. THE EXACT LOCATION FOR PENETRATING THE WALL SHALL BE VERIFIED ON SITE.
- 1. CONTRACTOR TO PROVIDE AND INSTALL NEW DOMESTIC COLD WATER, HOT WATER AND HOT WATER RETURN PIPING C/W ALL CONNECTION SUPPORT. CONTRACTOR TO VERIFY THE EXACT PIPE ROUTE ON SITE. PROVIDE AND INSTALL NEW INSULATED HOT WATER SUPPLY AND RETURN PIPES CONNECTION C/W ALL ASSOCIATED VALVES AND ACCESSORIES, AND CONNECT TO EXISTING PIPES. EXACT PIPING LAYOUT SHALL BE VERIFIED AT SITE.
- 2. PROVIDE AND INSTALL NEW UNIT HEATER AS PER EQUIPMENT SCHEDULE AND MANUFACTURER'S INSTRUCTIONS. CONNECT THE HOT WATER PIPES ASSOCIATED WITH SHUT OFF VALVE, POWER AND CONTROL POINTS. PROVIDE AND INSTALL NEW DDC TEMPERATURE SENSOR AND CONNECT TO THE NEW UNIT HEATER AND BAS SYSTEM C/W CONTROL WIRING AND CONDUIT. UPGRADE BAS TO MATCH WITH NEW POINTS.
- 3. PROVIDE AND INSTALL NEW EXHAUST FAN AS PER EQUIPMENT SCHEDULE AND MANUFACTURER'S INSTRUCTIONS. CONNECT THE EXISTING DUCT.
- 4. CONTRACTOR TO ALLOW FOR REMOVAL/RE-INSTALLATION OF ALL SERVICES ASSOCIATED WORKS AT T-BAR CEILING, DRY WALL CEILING, TRENCH AND PLASTER CEILING AND UNINSTALL/INSTALL MECHANICAL SERVICES.
- 5. CONTRACTOR TO INCLUDE REMOVAL, REPAIR AND RE-INSTALLING WALLS, T-BAR AND DRY WALL CEILING, MILLWORKS, DOOR FRAME AND ALL PARTITIONS IN ORDER TO REMOVE PIPING AS REQUIRED.
- 6. PROVIDE AND INSTALL NEW HEAT EXCHANGER C/W ALL ASSOCIATED CONCRETE PAD, SHUT OFF, PRESSURE RELIEF, DRAIN, AND CONTROL VALVES AND MECHANICAL, ELECTRICAL, AND CONTROL EQUIPMENT. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. MECHANICAL SCHEMATIC AND EQUIPMENT SCHEDULE. CONNECT THE SUPPLY AND RETURN HOT WATER PIPES, DRAIN PIPES, GAS PIPING CONNECTIONS, AND ACCESSORIES, POWER AND CONTROL POINTS.
- 7. CONTRACTOR TO ENSURE HEAT RECOVERY PIPING IS ROUTED AND INSTALLED AT A SAFE DISTANCE FROM THE REFRIGERATION MCC, MAINTAIN SAFETY STANDARDS, AND FACILITATE PROPER OPERATION AND MAINTENANCE.

RINK 2



- GENERAL NOTES:**
1. ALL EXISTING SERVICES SHOWN HAS BEEN EXTRACTED FROM AVAILABLE BASE BUILDING DRAWINGS AND RANDOM SITE SURVEYS. NOT ALL EXISTING SERVICES INFORMATION HAS BEEN SHOWN NOR CAN THE INFORMATION SHOWN BE GUARANTEED FOR PRECISE ACCURACY. CONTRACTOR SHALL THEREFORE VISIT THE SITE PRIOR TO SUBMITTING A BID TO SATISFY THEMSELVES THAT ALL WORK SHOWN AND/OR SPECIFIED CAN BE CARRIED OUT IN ACCORDANCE WITH THE CONTRACT DOCUMENT.
 2. ALL EXISTING EQUIPMENT TAG NOS. USED ON THIS DRAWING ARE BASED ON EXISTING BASE BUILDING DRAWINGS.
 3. ALL CUTTING/PATCHING/REPAIRING OF WALLS AND FLOORS REQUIRED TO ACCOMMODATE NEW MECHANICAL WORK IS TO BE ARRANGED AND PAID FOR BY MECHANICAL CONTRACTOR. X-RAY FLOOR/CONCRETE WALLS PRIOR TO CORRECTING.
 4. THE MECHANICAL DRAWINGS DO NOT SHOW ALL THE ARCHITECTURAL AND STRUCTURAL DETAILS. ANY SPECIFIC INFORMATION INVOLVING ACCURATE MEASURING OF THE BUILDING SHALL BE TAKEN FROM THE BUILDING DRAWINGS OR AT THE BUILDING. MAKE WITHOUT ADDITIONAL CHARGE. ANY NECESSARY CHANGES OR ADDITIONS TO THE RUNS OF DUCTS AND PIPES TO ACCOMMODATE THE ABOVE CONDITIONS.
 5. COORDINATE WITH ALL OTHER TRADES AND SITE SUPERINTENDENT ON ALL WORK.
 6. ALL ABANDONED PIPING WHICH ARE NO LONGER BEING USED SHALL BE REMOVED FROM THE SITE. CONTRACTOR SHALL ENSURE PRIOR TO REMOVAL OF ANY PIPING THAT THE SYSTEM IS COMPLETELY ISOLATED AND IS NOT ALIVE.
 7. WORK SHALL INCLUDE STARTUP OF ALL SYSTEMS, FURNISHING OF OPERATING AND MAINTENANCE INSTRUCTIONS, AND ONE (1) YEAR GUARANTEE, COMMENCING ON THE DATE OF ACCEPTANCE BY THE TENANT.
 8. ALL ROOFING AND PENETRATIONS SHALL BE DONE IN STRICT ACCORDANCE WITH STANDARD DETAILS AND ONLY BY APPROVED ROOFING TRADES. IF THE ROOF IS UNDER WARRANTY, ONLY THE WARRANTY HOLDER SHALL BE RETAINED TO PERFORM THE WORK.
 9. REMOVE ALL EXISTING PNEUMATIC CONTROL DEVICES. NEW CONTROL SYSTEM TO BE DDC AND CONNECTED TO BAS.
 10. ALL REDUNDANT WALL / ROOF OPENINGS SHALL BE SEALED AND FIRE-STOPPED AS REQUIRED.
 11. CONTRACTOR TO INCLUDE REMOVAL/CUTTING OF WALLS, DRYWALLING AND RE-INSTALLING/REPAIRING/PATCHING/PAINTING TO MATCH EXISTING WHERE REQUIRED FOR DEMOLITION AND INSTALLATION OF NEW PIPES.
 12. CONTRACTOR TO PROVIDE PROTECTION FOR ALL EXISTING OUTWORK DURING CONSTRUCTION FROM DUST AND DEBRIS.
 13. ALL PIPING MUST BE SUPPORTED FROM ROOF/CILING STRUCTURE. THE INSTALLATION DETAILS MUST BE SUBMITTED TO THE CONSULTANT FOR REVIEW.
 14. CONTRACTOR SHALL ALLOW FOR RELOCATION/REMOVAL AND RE-INSTALLATION OF WIRING, CONDUITS, LIGHTING WHERE THE NEW PIPING WILL BE INSTALLED.
 15. CONTRACTOR SHALL ALLOW FOR ALL THE WORK RELATED TO DEMOLITION AND FIXING WALL AND DRYWALL CEILING AND ETC.
 16. CONTRACTOR TO CHEMICALLY WASH AND CLEAN ALL THE EXISTING HWS/HWR PIPING.
 17. CONTRACTOR TO VERIFY WATER FLOW RATE AUDIT TO CONFIRM THE EXISTING FLOW RATE PRIOR TO DEMOLITION WORK AND SUBMIT REPORT TO CONSULTANT.

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Key Plan

True North

P.N. = PROJECT NORTH
T.N. = TRUE NORTH

Engineer Logo

Spectra Engineering
250 SHEPPARD AVE EAST, SUITE 606, TORONTO, ONTARIO, M2N 6M9
TEL: (416) 478-5158
FAX: (416) 478-5917

Client

MISSISSAUGA

Drawing Overall Scale

AS SHOWN

Project Name & Address

TOMKEN TWIN ARENA
MECHANICAL AND VARIOUS BUILDING LIFECYCLE RENEWALS
4495 TOMKEN RD, MISSISSAUGA, ON L4W 1J9

Drawing Title

MECHANICAL SERVICES
MECHANICAL PLAN- PLUMBING LAYOUT-NEW WORK
1ST FLOOR-RINK 2

DATE: 16/09/2024
DESIGNED BY: A.M.
DRAWN BY: A.M.
APPROVED BY: M.A.
PROJECT NO.: 1024104

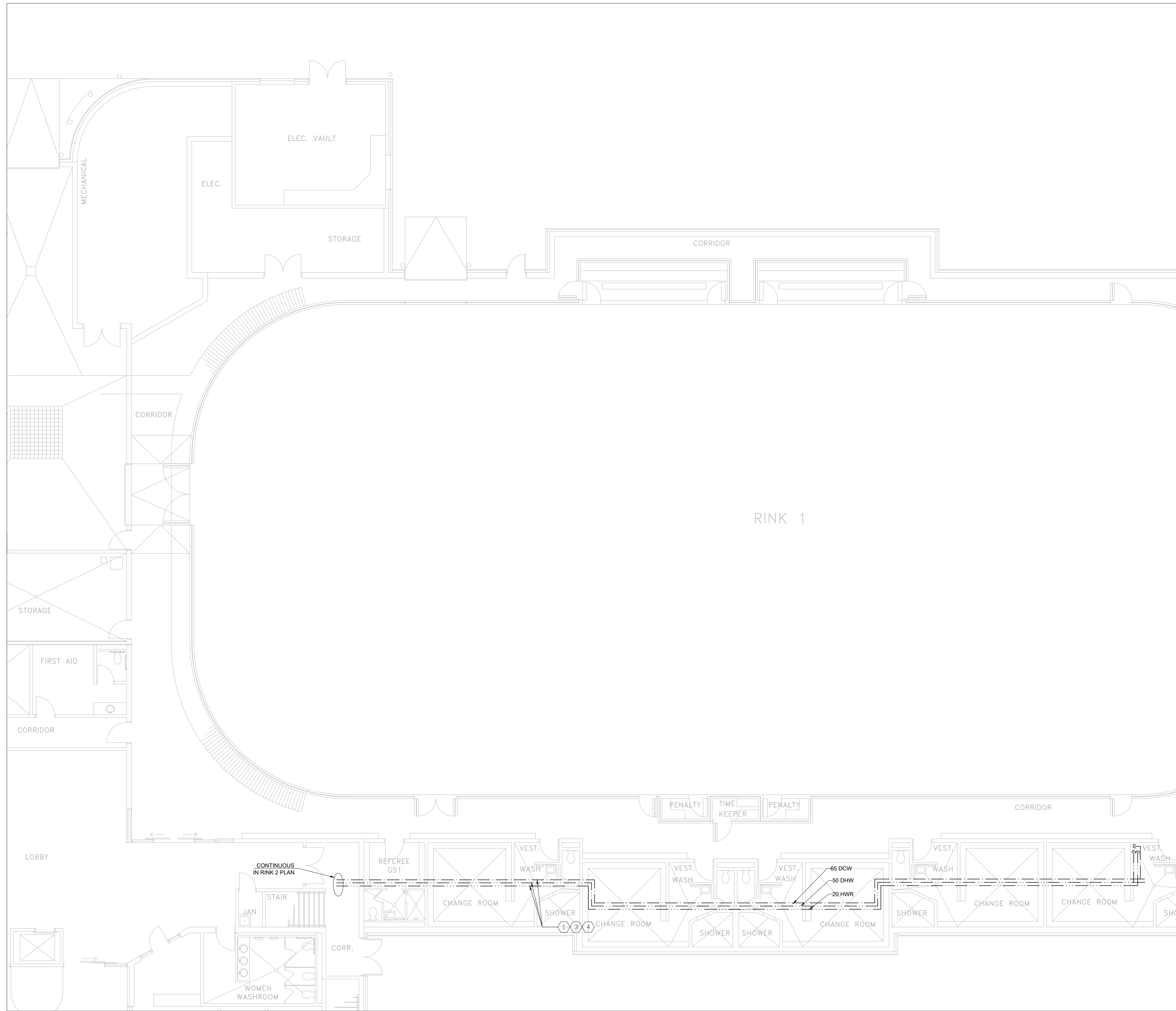
Engineer / Architect Stamp

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MECHANICAL PLAN- PLUMBING LAYOUT- 1ST FLOOR- RINK2- NEW WORK

Scale: 1:100

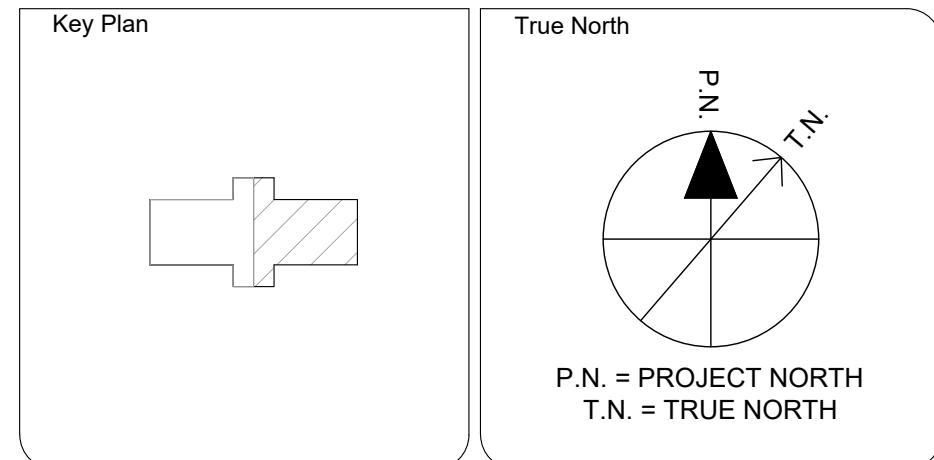
Drawing No.
M-202



- DESIGN NOTES:**
- CONTRACTOR TO VERIFY EXACT LOCATION OF PIPING AND EXACT LOCATION OF CONNECTIONS ON SITE TO ACCOMMODATE WITH ARCHITECTURAL REQUIREMENTS.
 - CONTRACTOR TO INCLUDE FOR CUTTING / PATCHING / PAINTING WALLS IF REQUIRED FOR INSTALLATION OF NEW SERVICES. CONTRACTOR TO SEAL ALL REDUNDANT & NEW OPENINGS WITH FIRE RATED MATERIAL. THE EXACT LOCATION FOR PENETRATING THE WALL SHALL BE VERIFIED ON SITE.
1. CONTRACTOR TO PROVIDE AND INSTALL NEW DOMESTIC COLD WATER, HOT WATER AND HOT WATER RETURN PIPING CW ALL CONNECTION, SUPPORT. CONTRACTOR TO VERIFY THE EXACT PIPE ROUTE ON SITE.
 2. PROVIDE AND INSTALL NEW UNIT HEATER AS PER EQUIPMENT SCHEDULE AND MANUFACTURER'S INSTRUCTIONS. CONNECT THE HOT WATER PIPES ASSOCIATED WITH SHUT OFF VALVE, POWER AND CONTROL POINTS. PROVIDE AND INSTALL NEW DDC TEMPERATURE SENSOR AND CONNECT TO THE NEW UNIT HEATER AND EXISTING BAS SYSTEM CW CONTROL WIRING AND CONDUIT. UPGRADE BAS TO MATCH WITH NEW POINTS.
 3. CONTRACTOR TO ALLOW FOR REMOVAL/RE-INSTALLATION OF ALL SERVICES ASSOCIATED WORKS AT T-BAR CEILING, DRY WALL CEILING, TRENCH AND PLASTER CEILING AND UNINSTALL/INSTALL MECHANICAL SERVICES.
 4. CONTRACTOR TO INCLUDE REMOVAL, REPAIR AND RE-INSTALLING WALLS, T-BAR AND DRY WALL CEILING, MILLWORKS, DOOR FRAME AND ALL PARTITIONS IN ORDER TO REMOVE PIPING AS REQUIRED.

- GENERAL NOTES:**
1. ALL EXISTING SERVICES SHOWN HAS BEEN EXTRACTED FROM AVAILABLE BASE BUILDING DRAWINGS AND RANDOM SITE SURVEYS. NOT ALL EXISTING SERVICES/INFRASTRUCTURE INFORMATION HAS BEEN SHOWN NOR CAN THE INFORMATION SHOWN BE GUARANTEED FOR PRECISE. CONTRACTOR SHALL THEREFORE VISIT THE SITE PRIOR TO SUBMITTING A BID TO SATISFY THEMSELVES THAT ALL WORK SHOWN AND/OR SPECIFIED CAN BE CARRIED OUT IN ACCORDANCE WITH THE CONTRACT DOCUMENT.
 2. ALL EXISTING EQUIPMENT TAG NOS. USED ON THIS DRAWING ARE BASED ON EXISTING BASE BUILDING STANDARDS.
 3. ALL CUTTING/PATCHING/WORKING OF WALLS AND FLOORS REQUIRED TO ACCOMMODATE NEW MECHANICAL WORK IS TO BE ARRANGED AND PAID FOR BY MECHANICAL CONTRACTOR. X-RAY FLOORS/CONCRETE WALLS PRIOR TO CONSTRUCTION.
 4. THE MECHANICAL DRAWINGS DO NOT SHOW ALL THE ARCHITECTURAL AND STRUCTURAL DETAILS. ANY SPECIFIC INFORMATION INVOLVING ACCURATE MEASUREMENT OF THE BUILDING SHALL BE TAKEN FROM THE BUILDING DRAWINGS OR AT THE BUILDING. MAKE WITHOUT ADDITIONS, CHANGE ANY NECESSARY CHANGES OR ADDITIONS TO THE RUNS OF DUCTS AND PIPES TO ACCOMMODATE THE ABOVE CONDITIONS.
 5. COORDINATE WITH ALL OTHER TRADES AND SITE SUPERINTENDENT ON ALL WORK.
 6. ALL ABANDONED PIPING WHICH ARE NO LONGER BEING USED SHALL BE REMOVED FROM THE SITE. CONTRACTOR SHALL ENSURE PRIOR TO REMOVAL OF ANY PIPING THAT THE SYSTEM IS COMPLETELY ISOLATED AND IS NOT ALIVE.
 7. WORK SHALL INCLUDE STARTUP OF ALL SYSTEMS, FURNISHING OF OPERATING AND MAINTENANCE INSTRUCTIONS AND ONE (1) YEAR GUARANTEE COMMENCING ON THE DATE OF ACCEPTANCE BY THE TENANT.
 8. ALL ROOFING AND PENETRATIONS SHALL BE DONE IN STRICT ACCORDANCE WITH STANDARD DETAILS AND ONLY BY APPROVED ROOFING TRADES. IF THE ROOF IS UNDER WARRANTY, ONLY THE WARRANTY HOLDER SHALL BE REFERENCED TO PERFORM THE WORK.
 9. REMOVE ALL EXISTING PNEUMATIC CONTROL DEVICES. NEW CONTROL SYSTEM TO BE DDC AND CONNECTED TO BAS.
 10. ALL REDUNDANT WALL / ROOF OPENINGS SHALL BE SEALED AND FIRE-STOPPED AS REQUIRED.
 11. CONTRACTOR TO INCLUDE REMOVAL/CUTTING OF WALL/FLOOR/CEILING AND REINSTALLATION/REPAIR/CONCRETE/PARTITION TO MATCH EXISTING WHERE REQUIRED FOR DEMOLITION AND INSTALLATION OF NEW PIPES.
 12. CONTRACTOR TO PROVIDE PROTECTION FOR ALL EXISTING OUTWORK DURING CONSTRUCTION FROM DUST AND DEBRIS.
 13. ALL PIPING MUST BE SUPPORTED FROM ROOF/CILING STRUCTURE. THE INSTALLATION DETAILS MUST BE SUBMITTED TO THE CONSULTANT FOR REVIEW.
 14. CONTRACTOR SHALL ALLOW FOR RELOCATION/REMOVAL AND RE-INSTALLATION OF WIRING, CONDUITS, LIGHTING WHERE THE NEW PIPING WILL BE INSTALLED.
 15. CONTRACTOR SHALL ALLOW FOR ALL THE WORK RELATED TO DEMOLITION AND FIXING WALL AND DRYWALL CEILING AND ETC.
 16. CONTRACTOR TO CHEMICALLY WASH AND CLEAN ALL THE EXISTING HIGH/HRV PIPING.
 17. CONTRACTOR TO PROVIDE WATER FLOW RATE ADJUST TO CONFIRM THE EXISTING FLOW RATE PRIOR TO DEMOLITION WORK AND SUBMIT REPORT TO CONSULTANT.

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Engineer Logo

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FAX: (416) 478-5917

Client

MISSISSAUGA

Drawing Overall Scale

AS SHOWN

Project Name & Address

TOMKEN TWIN ARENA
MECHANICAL AND VARIOUS BUILDING LIFECYCLE RENEWALS
4495 TOMKEN RD, MISSISSAUGA, ON L4W 1J9

Drawing Title

MECHANICAL SERVICES
MECHANICAL PLAN- PLUMBING LAYOUT-NEW WORK
1ST FLOOR-RINK1

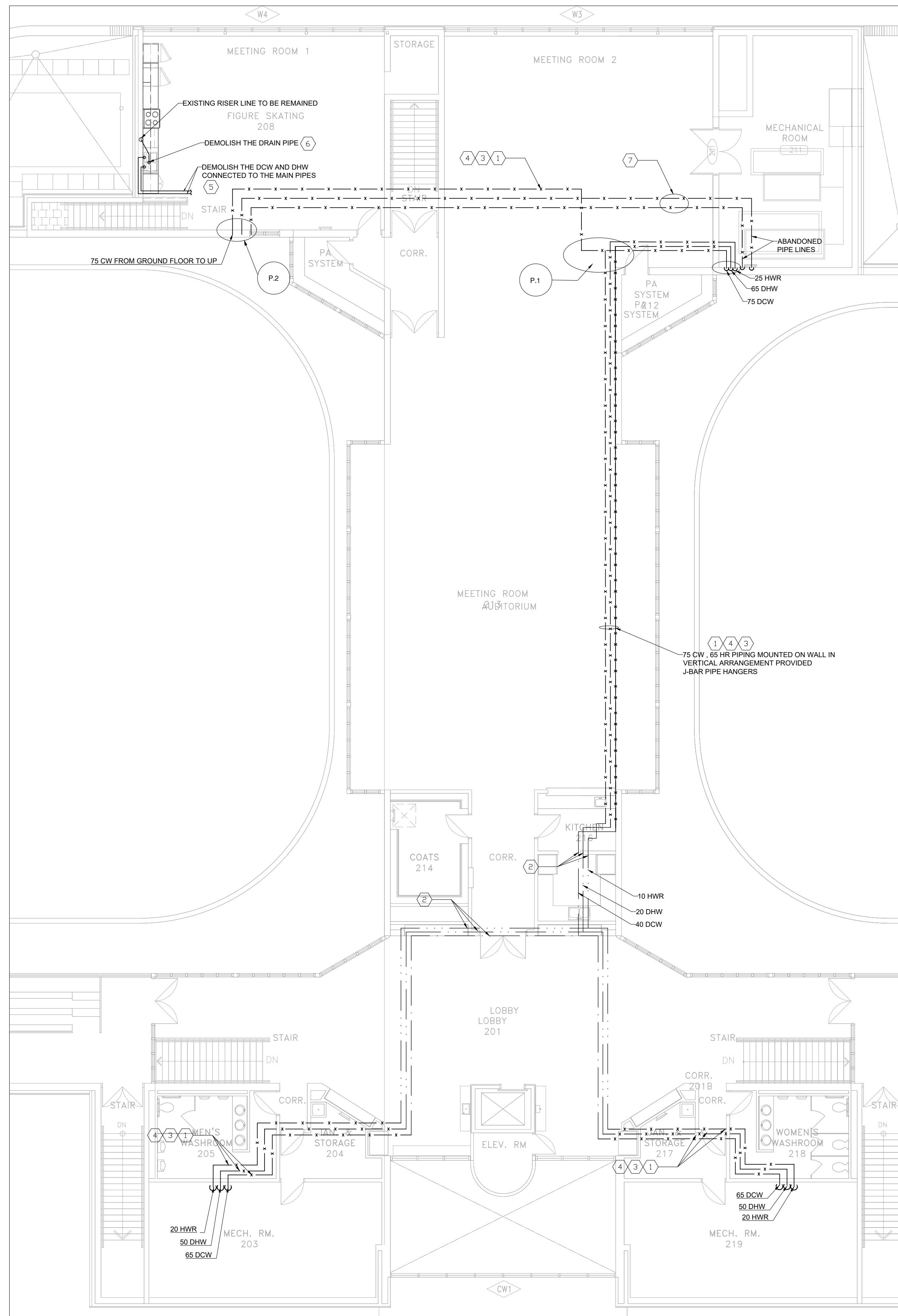
DATE: 16/09/2024
DESIGNED BY: A.M.
DRAWN BY: A.M.
APPROVED BY: M.A.
PROJECT NO.: 1024104

Engineer / Architect Stamp

1

MECHANICAL PLAN- PLUMBING LAYOUT- 1ST FLOOR- RINK1- NEW WORK

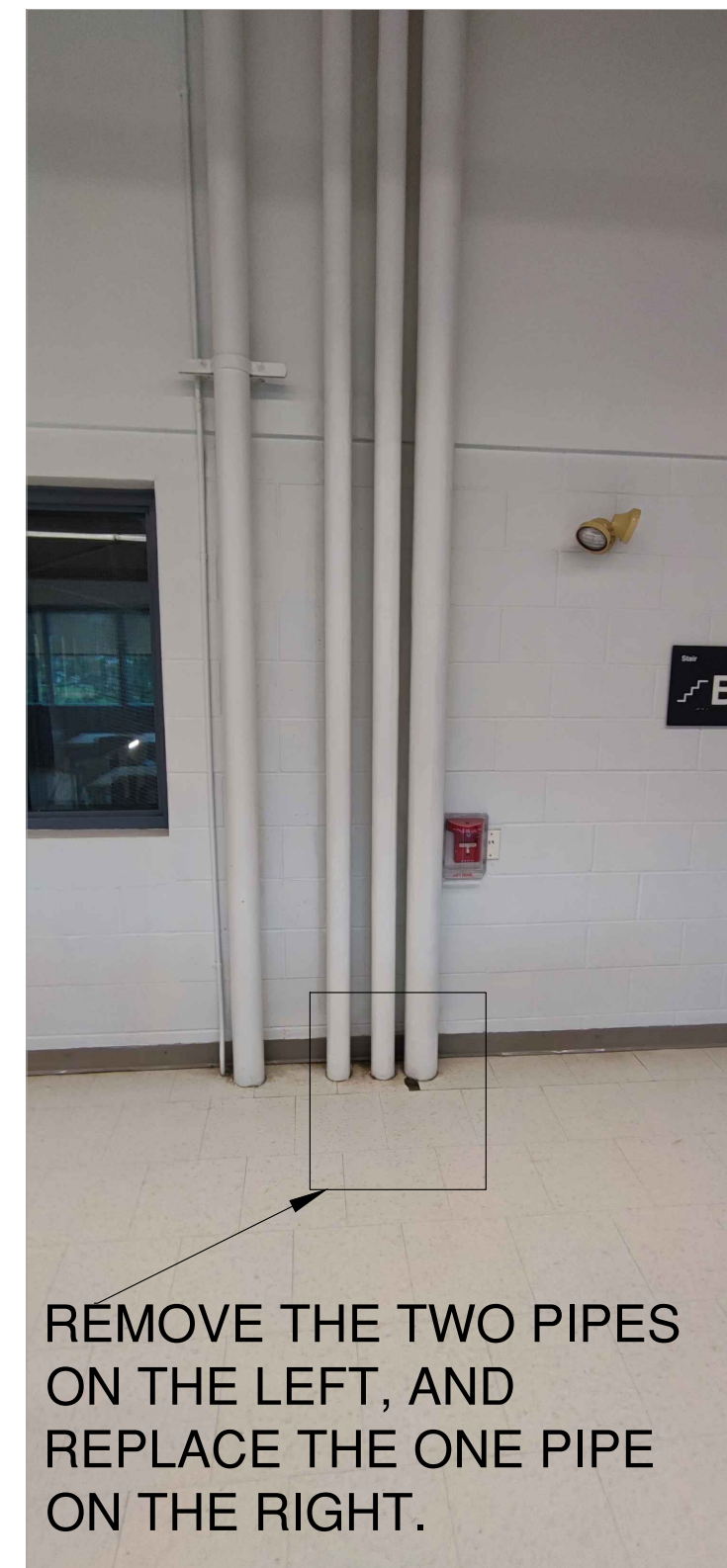
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- DEMOLITION NOTES:**
 - CONTRACTOR TO VERIFY EXACT LOCATION OF PIPING AND EXACT LOCATION OF EQUIPMENTS CONNECTIONS ON SITE.
- CONTRACTOR TO DEMOLISH THE EXISTING DOMESTIC COLD WATER, HOT WATER AND HOT WATER RETURN PIPES CW, SHUT-OFF VALVES, PUMP AND ALL ASSOCIATED EQUIPMENT, ASSOCIATED CONNECTION, SUPPORT AND INSULATION, VALVES, SUPPORT AND TRAP UNDER CEILING, EXPOSE AND IN THE TRENCH, ALL INACCESSIBLE LOCATIONS SUCH AS CHASED WALLS, TUNNELS TO BE ABANDONED, CONTRACTOR TO REPAIR FIX CEILING, FLOORS AND WALLS TO MATCH THE EXISTING IF OPENING USED FOR NEW PIPE LAYOUT, MAKE LOCATION READY FOR NEW WORK.
 - THE EXISTING DOMESTIC COLD WATER, HOT WATER AND HOT WATER RETURN TO BE REMAINED, MAKE READY FOR NEW WORK, REFER TO NEW WORK DRAWING FOR MORE DETAIL.
 - CONTRACTOR TO ALLOW FOR REMOVAL/RE-INSTALLATION OF ALL SERVICES
 - CONTRACTOR TO INCLUDE REMOVAL, REPAIR AND RE-INSTALLING WALLS, T-BAR AND DRY WALL CEILING, MILLWORKS, DOOR FRAME AND ALL PARTITIONS IN ORDER TO REMOVE PIPING AS REQUIRED.
 - CONTRACTOR TO DEMOLISH THE EXISTING DCW AND DHW CONNECTED TO THE SINK, CW ALL ASSOCIATED MECHANICAL EQUIPMENT, AND PREPARE THE MAIN PIPE LINES READY FOR NEW WORK.
 - CONTRACTOR TO DEMOLISH EXISTING DRAIN PIPE OF THE SINK, CW ALL ASSOCIATED MECHANICAL EQUIPMENT, AND MAKE THE MAIN SANITARY PIPE LINE FOR NEW WORK.
 - CONTRACTOR TO DEMOLISH THESE TWO ABANDONED PIPE LINES CAPPED IN FIRST FLOOR AT REFRIGERATION AND MECHANICAL ROOM.



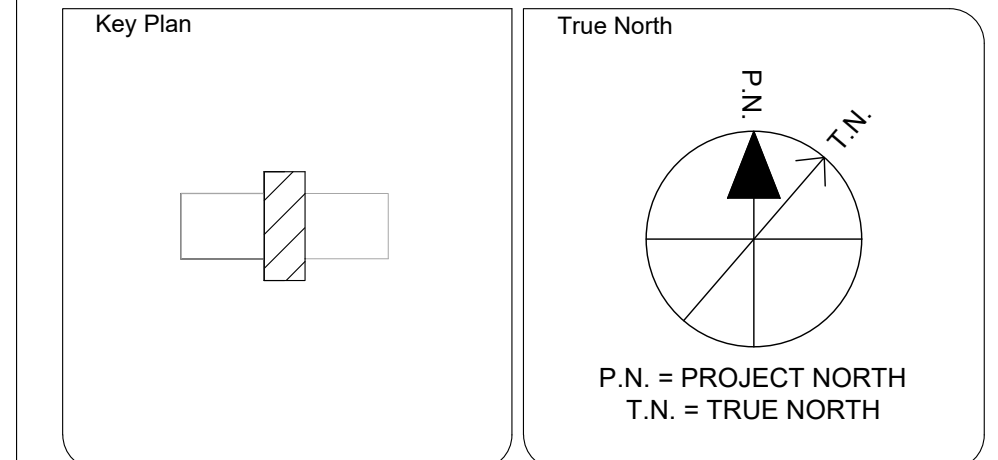
P.1. 2ND FLOOR JUNCTION OF THE DCW, DHW, HWR



P.2. DEMOLISH THE PIPES DCW AND ABANDONED PIPE LINES AT KITCHEN IN 2ND FLOOR. PROVIDE AND INSTALL NEW DCW AS PER NEW WORK DRAWING M-205, TWO OTHER PIPES ARE CAPPED AT REFRIGERATION ROOM IN FIRST FLOOR.

- GENERAL NOTES:**
- ALL EXISTING SERVICES SHOWN HAS BEEN EXTRACTED FROM AVAILABLE BASE BUILDING DRAWINGS AND VISUAL SITE SURVEY. NOT ALL EXISTING SERVICES INFORMATION HAS BEEN SHOWN. CONTRACTOR SHALL VERIFY THE INFORMATION SHOWN, BE GUARANTEED FOR PRECISE ACCURACY. CONTRACTOR SHALL THEREFORE VISIT THE SITE PRIOR TO SUBMITTING A BID TO SATISFY THEMSELVES THAT ALL WORK SHOWN AND/OR SPECIFIED CAN BE CARRIED OUT IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
 - ALL EXISTING EQUIPMENT TAG NOS. USED ON THIS DRAWING ARE BASED ON EXISTING BASE BUILDING STANDARDS.
 - ALL CUTTING/PATCHING/CORING OF WALLS AND FLOORS REQUIRED TO ACCOMMODATE NEW MECHANICAL WORK IS TO BE ARRANGED AND PAID FOR BY MECHANICAL CONTRACTOR, X-RAY FLOORS/CONCRETE WALLS PRIOR TO CORING/CUTTING.
 - THE MECHANICAL DRAWINGS DO NOT SHOW ALL THE ARCHITECTURAL AND STRUCTURAL DETAILS. ANY SPECIFIC INFORMATION INVOLVING ACCURATE MEASUREMENTS OF THE BUILDING SHALL BE TAKEN FROM THE BUILDING DRAWINGS OR AT THE BUILDING MAKE WITHOUT ADDITIONAL CHARGE. ANY NECESSARY CHANGES OR ADDITIONS TO THE RANGE OF DUCTS AND PIPES TO ACCOMMODATE THE ABOVE CONDITIONS.
 - COORDINATE WITH ALL OTHER TRADES AND SITE SUPERINTENDENT ON ALL WORK.
 - ALL ABANDONED PIPING WHICH ARE NO LONGER BEING USED SHALL BE REMOVED FROM THE SITE. CONTRACTOR SHALL INSURE PRIOR TO REMOVAL OF ANY PIPING THAT THE SYSTEM IS COMPLETELY ISOLATED AND IS NOT ALIVE.
 - WORK SHALL INCLUDE STARTUP OF ALL SYSTEMS, FURNISHING OF OPERATING AND MAINTENANCE INSTRUCTIONS, AND ONE (1) YEAR GUARANTEE, COMMENCING ON THE DATE OF ACCEPTANCE BY THE TENANT.
 - ALL ROOFING AND PENETRATIONS SHALL BE DONE IN STRICT ACCORDANCE WITH STANDARD DETAILS AND ONLY BY APPROVED ROOFING TRADES. IF THE ROOF IS UNDER WARRANTY, ONLY THE WARRANTY HOLDER SHALL BE RETAINED TO PERFORM THE WORK.
 - REMOVE ALL EXISTING PNEUMATIC CONTROL DEVICES. NEW CONTROL SYSTEM TO BE ODC AND CONNECTED TO BAS.
 - ALL REDUNDANT WALL/ROOF OPENINGS SHALL BE SEALED AND FIRE-STOPPED AS REQUIRED.
 - CONTRACTOR TO INCLUDE REMOVAL/CUTTING OF WALLS/CORCEILING AND REINSTALLATION/CONCRETE/PARTITIONING TO MATCH EXISTING WHERE REQUIRED FOR DEMOLITION AND INSTALLATION OF NEW PIPES.
 - CONTRACTOR TO PROVIDE PROTECTION FOR ALL EXISTING DUCTWORK DURING CONSTRUCTION FROM DUST AND DEBRIS.
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 - CONTRACTOR SHALL ALLOW FOR RELOCATION/REMOVAL AND RE-INSTALLATION OF WIRING, CONDUITS, LIGHTING WHERE THE NEW PIPING WILL BE INSTALLED.
 - CONTRACTOR SHALL ALLOW FOR ALL THE WORK RELATED TO DEMOLITION AND PILING WALL AND DRYWALL, CEILING ETC.
 - CONTRACTOR TO CHEMICALLY WASH AND CLEAN ALL THE EXISTING HWS/HWR PIPING.
 - CONTRACTOR TO PROVIDE WATER FLOW RATE ADJUST TO CONFIRM THE EXISTING FLOW RATE PRIOR TO DEMOLITION WORK AND SUBMIT REPORT TO CONSULTANT.

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Client
 MISSISSAUGA

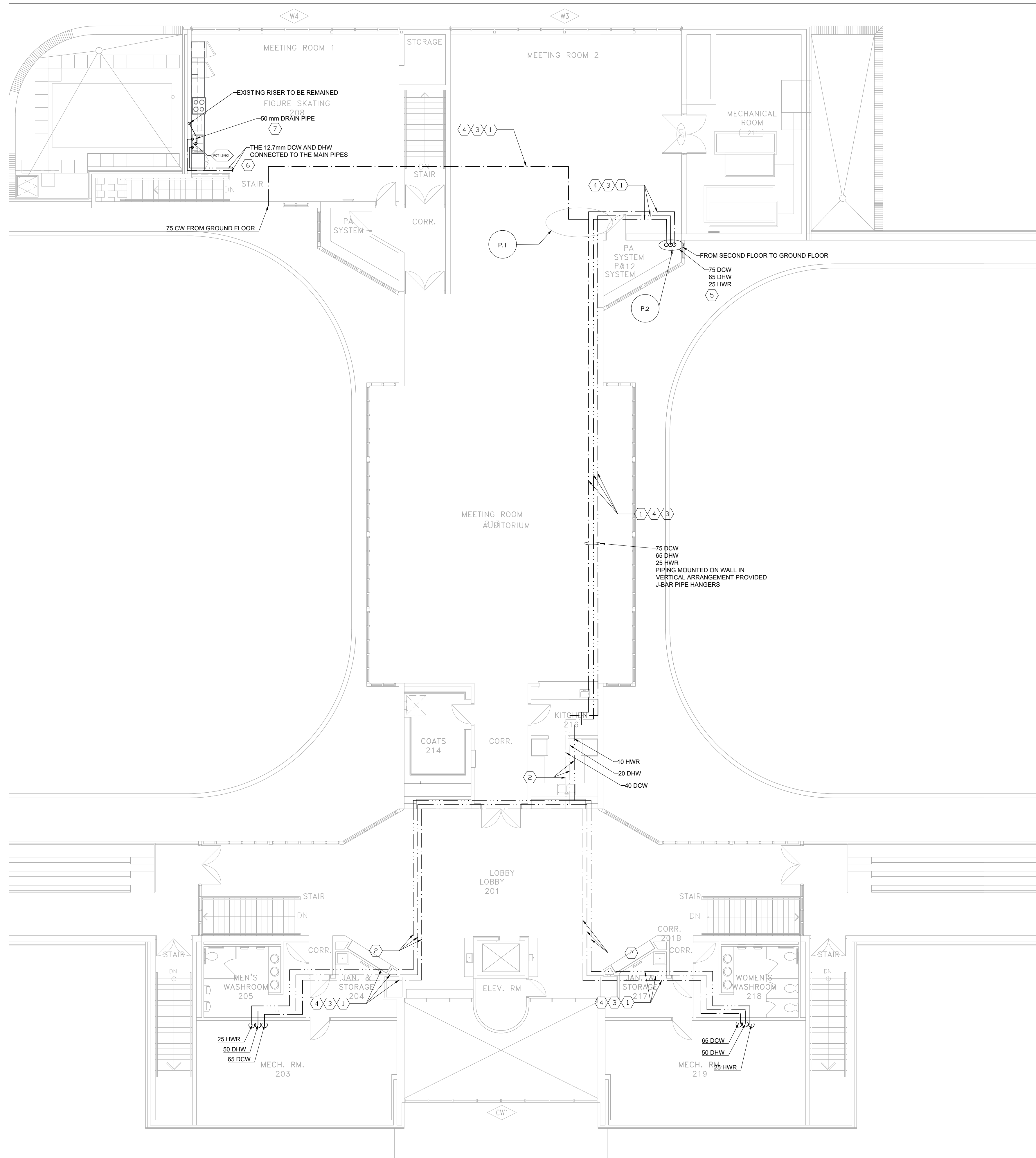
Drawing Overall Scale
 AS SHOWN

Project Name & Address
 TOMKEN TWIN ARENA
 MECHANICAL AND VARIOUS BUILDING LIFECYCLE RENEWALS
 4495 TOMKEN RD, MISSISSAUGA, ON L4W 1J9

Drawing Title
 MECHANICAL SERVICES
 MECHANICAL PLAN- PLUMBING LAYOUT-DEMOLISH/EXISTING
 2ND FLOOR

DATE: 16/09/2024
DESIGNED BY: A.M.
DRAWN BY: A.M.
APPROVED BY: M.A.
PROJECT NO.: 1024104

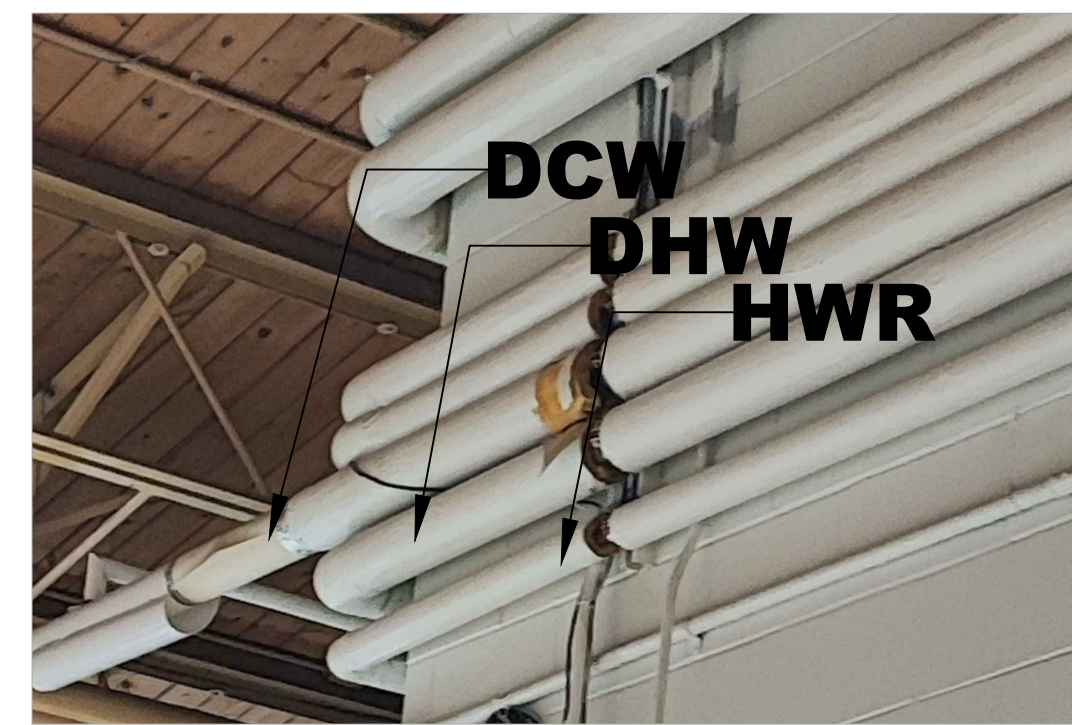
Engineer / Architect Stamp
 LICENSED PROFESSIONAL ENGINEER
 M. AKHAVANBAZAZ
 100088319
 2024-DEC-17
 PROVINCE OF ONTARIO



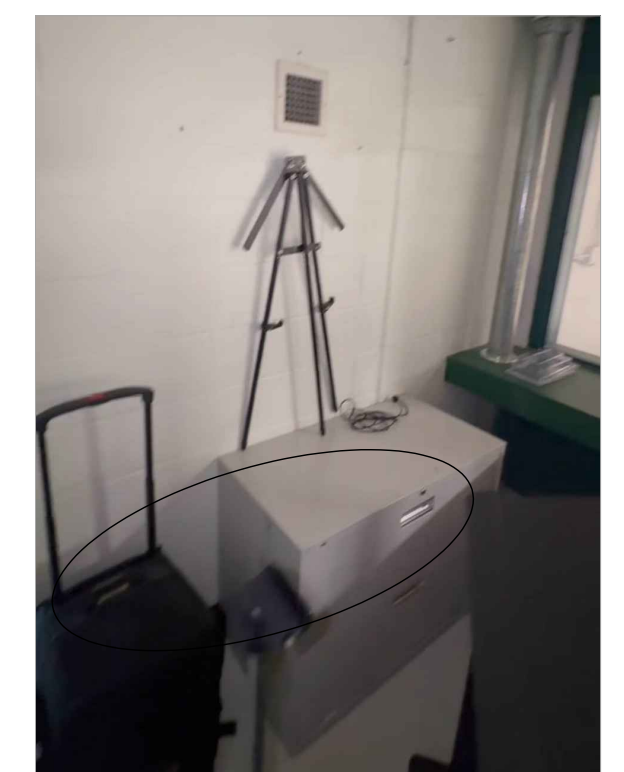
DESIGN NOTES:

- CONTRACTOR TO VERIFY EXACT LOCATION OF PIPING AND EXACT LOCATION OF CONNECTIONS ON SITE TO ACCOMMODATE WITH ARCHITECTURAL REQUIREMENTS.
 - CONTRACTOR TO INCLUDE FOR CUTTING / PATCHING / PAINTING WALLS IF REQUIRED FOR INSTALLATION OF NEW SERVICES. CONTRACTOR TO SEAL ALL REDUNDANT & NEW OPENINGS WITH FIRE RATED MATERIAL. THE EXACT LOCATION FOR PENETRATING THE WALL SHALL BE VERIFIED ON SITE.
1. CONTRACTOR TO PROVIDE AND INSTALL NEW DOMESTIC COLD WATER, HOT WATER AND HOT WATER RETURN PIPING C/W ALL CONNECTION, SUPPORT. CONTRACTOR TO VERIFY THE EXACT PIPE ROUTE ON SITE.
 2. EXISTING COLD WATER, HOT WATER AND HOT WATER RETURN PIPES TO BE REMAINED AND MAKE IT READY FOR NEW WORK.
 3. CONTRACTOR TO ALLOW FOR REMOVAL/RE-INSTALLATION OF ALL SERVICES ASSOCIATED WORKS AT T-BAR CEILING, DRY WALL CEILING, TRENCH AND PLASTER CEILING AND UNINSTALL/INSTALL MECHANICAL SERVICES. CONTRACTOR TO INCLUDE REMOVAL, REPAIR AND RE-INSTALLING WALLS, T-BAR AND DRY WALL CEILING, MILLWORKS, DOOR FRAME AND ALL PARTITIONS IN ORDER TO REMOVE PIPING AS REQUIRED.
 5. CONTRACTOR TO INSTALL THE NEW PIPES DCW, DHW, HWR IN SYSTEM ROOM.
 6. PROVIDE AND INSTALL NEW DCW AND DHW CONNECTED TO THE NEW SINK AS THE THE SINK IS DEMOLISHED AND MOVED 2 FEET TO THE NORTH TO ACCOUNT FOR THE ADDITION OF FULL-HEIGHT CABINETS ON THE KITCHENETTE'S NORTHERN SIDE.
 7. PROVIDE AND INSTALL DRAIN LINE. CONNECT TO EXISTING CLOSEST SANITARY ROUTE. AS THE THE SINK IS DEMOLISHED AND MOVED 2 FEET TO THE NORTH.

- GENERAL NOTES:**
1. ALL EXISTING SERVICES SHOWN HAS BEEN EXTRACTED FROM AVAILABLE BASE BUILDING DRAWINGS AND VISUAL SITE SURVEYS. NOT ALL EXISTING SERVICES INFORMATION HAS BEEN SHOWN NOR CAN THE INFORMATION SHOWN BE GUARANTEED FOR PRECISE ACCURACY. CONTRACTOR SHALL THEREFORE VISIT THE SITE PRIOR TO SUBMITTING A BID TO SATISFY THEMSELVES THAT ALL WORK SHOWN AND/OR SPECIFIED CAN BE CARRIED OUT IN ACCORDANCE WITH THE CONTRACT DOCUMENT.
 2. ALL EXISTING EQUIPMENT TAG NOS. USED ON THIS DRAWING ARE BASED ON EXISTING BASE BUILDING STANDARDS.
 3. ALL CUTTING/PATCHING/SCORING OF WALLS AND FLOORS REQUIRED TO ACCOMMODATE NEW MECHANICAL WORK IS TO BE ARRANGED AND PAID FOR BY MECHANICAL CONTRACTOR. JAWY FLOORS/CONCRETE WALLS PRIOR TO CORING/CUTTING.
 4. THE MECHANICAL DRAWINGS DO NOT SHOW ALL THE ARCHITECTURAL AND STRUCTURAL DETAILS AND SPECIFIC INFORMATION INCLUDING ACCURATE MEASUREMENTS OF THE BUILDING SHALL BE TAKEN FROM THE BUILDING DRAWINGS ON AT THE BUILDING. MAKE WITHOUT ADDITIONAL CHARGE. ANY NECESSARY CHANGES OR ADJUSTMENTS TO THE RUNS OF DUCTS AND PIPES TO ACCOMMODATE THE ABOVE CONDITIONS.
 5. COORDINATE WITH ALL OTHER TRADES AND SITE SUPERINTENDENT ON ALL WORK.
 6. ALL ABANDONED PIPING WHICH ARE NO LONGER BEING USED SHALL BE REMOVED FROM THE SITE. CONTRACTOR SHALL ENSURE PRIOR TO REMOVAL OF ANY PIPING THAT THE SYSTEM IS COMPLETELY ISOLATED AND IS NOT ALIVE.
 7. WORK SHALL INCLUDE STARTUP OF ALL SYSTEMS, FURNISHING OF OPERATING AND MAINTENANCE INSTRUCTIONS, AND ONE (1) YEAR GUARANTEE, COMMENCING ON THE DATE OF ACCEPTANCE BY THE TENANT.
 8. ALL ROOFING AND PENETRATIONS SHALL BE DONE IN STRICT ACCORDANCE WITH STANDARD DETAILS AND ONLY BY APPROVED ROOFING TRADES. IF THE ROOF IS UNDER WARRANTY, ONLY THE WARRANTY HOLDER SHALL BE RETAINED TO PERFORM THE WORK.
 9. REMOVE ALL EXISTING PNEUMATIC CONTROL DEVICES. NEW CONTROL SYSTEM TO BE DDC AND CONNECTED TO BMS.
 10. ALL REDUNDANT WALL / ROOF OPENINGS SHALL BE SEALED AND FIRE STOPPED AS REQUIRED.
 11. CONTRACTOR TO INCLUDE REMOVAL/CUTTING OF WALL/FLOOR/CEILING AND REINSTALLING/FORMING/CONCRETE TO MATCH EXISTING WHERE REQUIRED FOR DEMOLITION AND INSTALLATION OF NEW PIPES.
 12. CONTRACTOR TO PROVIDE PROTECTION FOR ALL EXISTING DUCTWORK DURING CONSTRUCTION. PROTECT AND DRESS.
 13. ALL PIPING MUST BE SUPPORTED FROM ROOF/CEILING STRUCTURE. THE INSTALLATION DETAILS MUST BE SUBMITTED TO THE CONSULTANT FOR REVIEW.
 14. CONTRACTOR SHALL ALLOW FOR RELOCATION/REMOVAL AND RE-INSTALLATION OF WIRING, CONDUITS, LIGHTING WHERE THE NEW PIPING WILL BE INSTALLED.
 15. CONTRACTOR SHALL ALLOW FOR ALL THE WORK RELATED TO DEMOLITION AND FIXING WALL AND DRYWALL, CEILING AND ETC.
 16. CONTRACTOR TO CHEMICALLY WASH AND CLEAN ALL THE EXISTING HANSAWR PIPES.
 17. CONTRACTOR TO PROVIDE WATER FLOW PRE AUDIT TO CONFIRM THE EXISTING FLOW RATE PRIOR TO DEMOLITION WORK AND SUBMIT REPORT TO CONSULTANT.



P.1. 2ND FLOOR JUNCTION OF THE DCW, DHW, HWR



P.2. NEW PIPING WORK TO BE INSTALLED IN THIS SECTION OF SYSTEM ROOM LOCATED AT 2ND FLOOR

REV.	DATE	DESCRIPTION
3	2024-DEC-11	ISSUED FOR PERMIT AND TENDER
2	2024-DEC-04	ISSUED FOR 100% - REVIEW
1	2024-NOV-15	ISSUED FOR 90% - REVIEW
0	2024-OCT-22	ISSUED FOR 50% - REVIEW

Key Plan

True North

P.N. = PROJECT NORTH
T.N. = TRUE NORTH

Engineer Logo

Spectra Engineering
250 SHEPPARD AVE EAST, SUITE 606, TORONTO, ONTARIO, M2N 6M9
TEL: (416) 478-1158
FAX: (416) 478-5917

Client

MISSISSAUGA

Drawing Overall Scale

AS SHOWN

Project Name & Address

TOMKEN TWIN ARENA
MECHANICAL AND VARIOUS BUILDING LIFECYCLE RENEWALS
4495 TOMKEN RD, MISSISSAUGA, ON L4W 1J9

Drawing Title

MECHANICAL SERVICES
MECHANICAL PLAN- PLUMBING LAYOUT-NEW WORK
2ND FLOOR

DATE: 16/09/2024

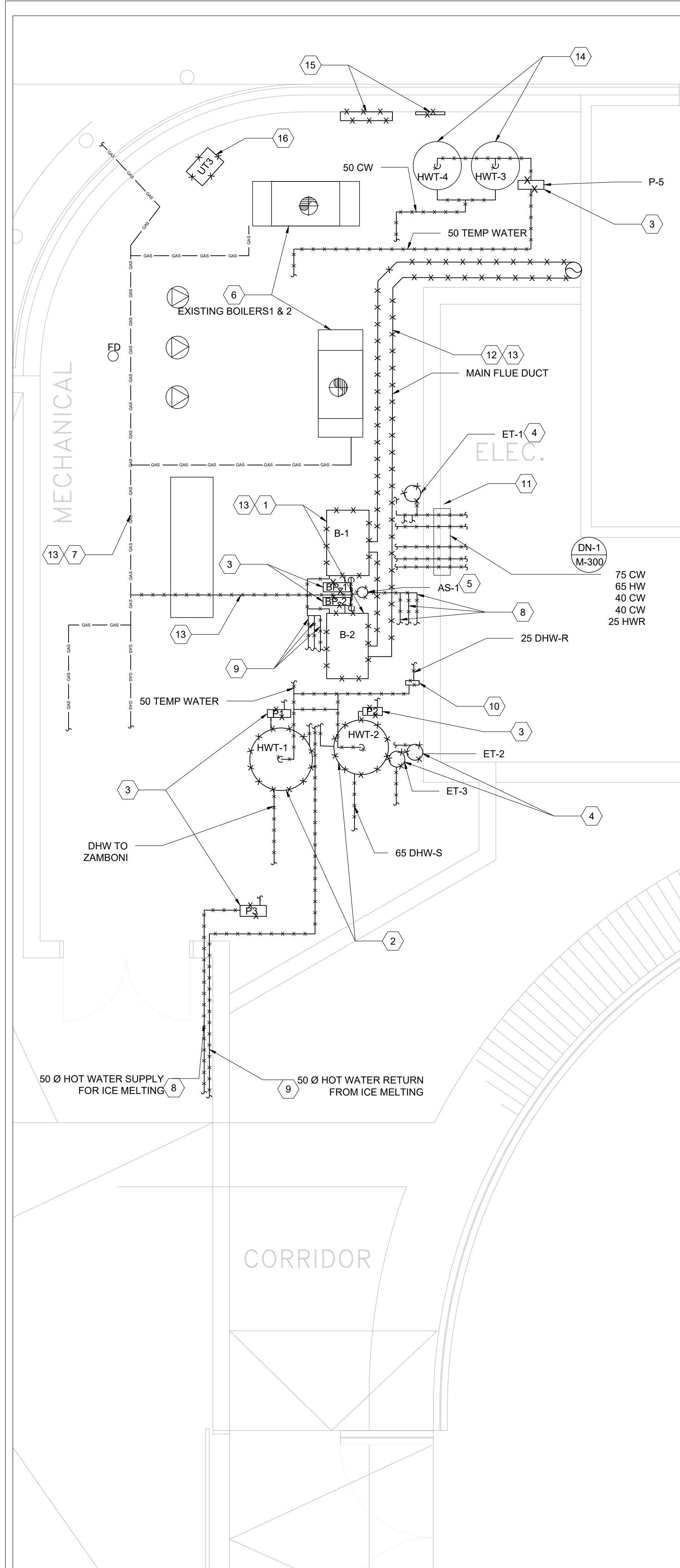
DESIGNED BY: A.M.

DRAWN BY: A.M.

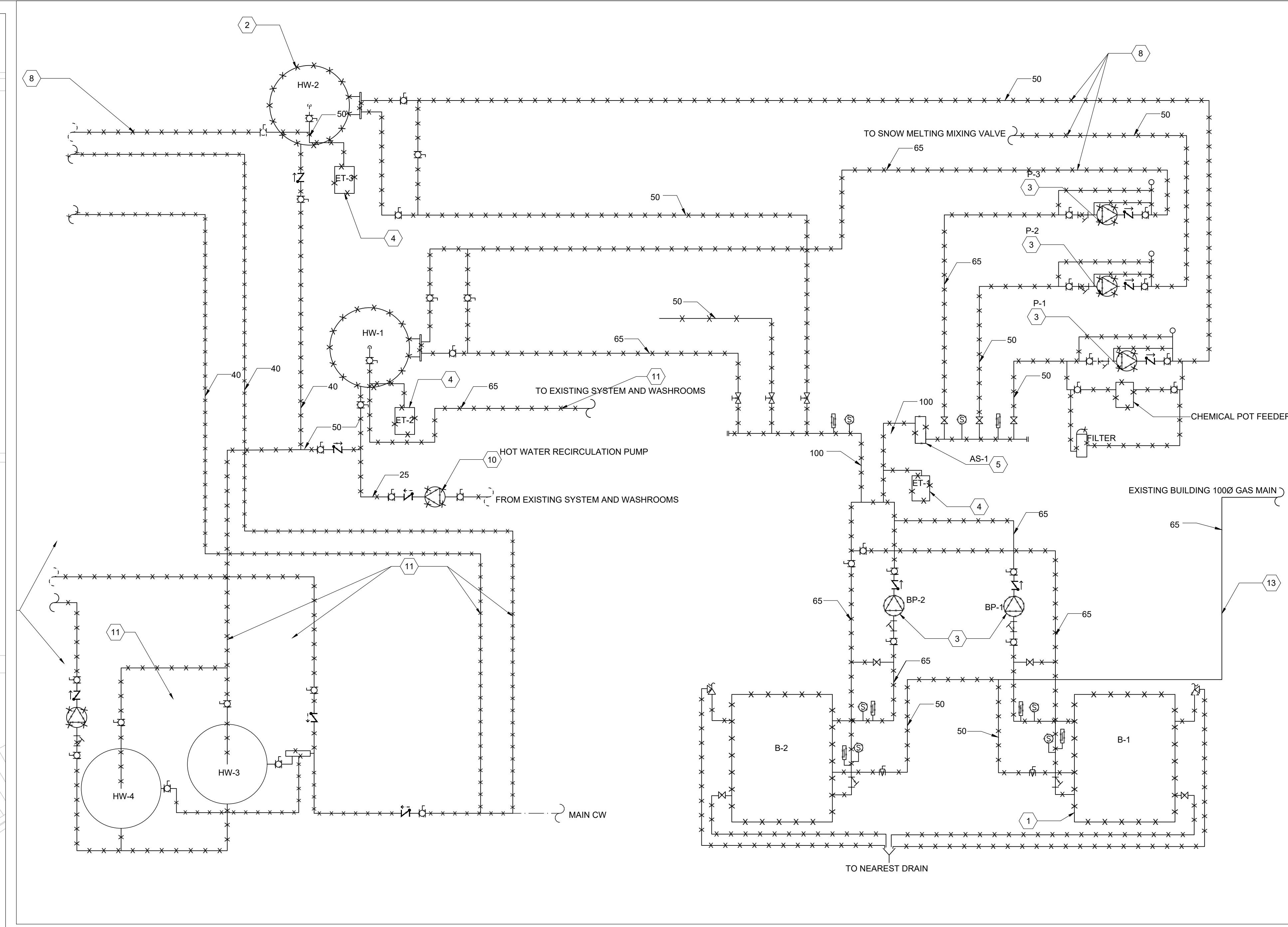
APPROVED BY: M.A.

PROJECT NO.: 1024104

Engineer / Architect Stamp

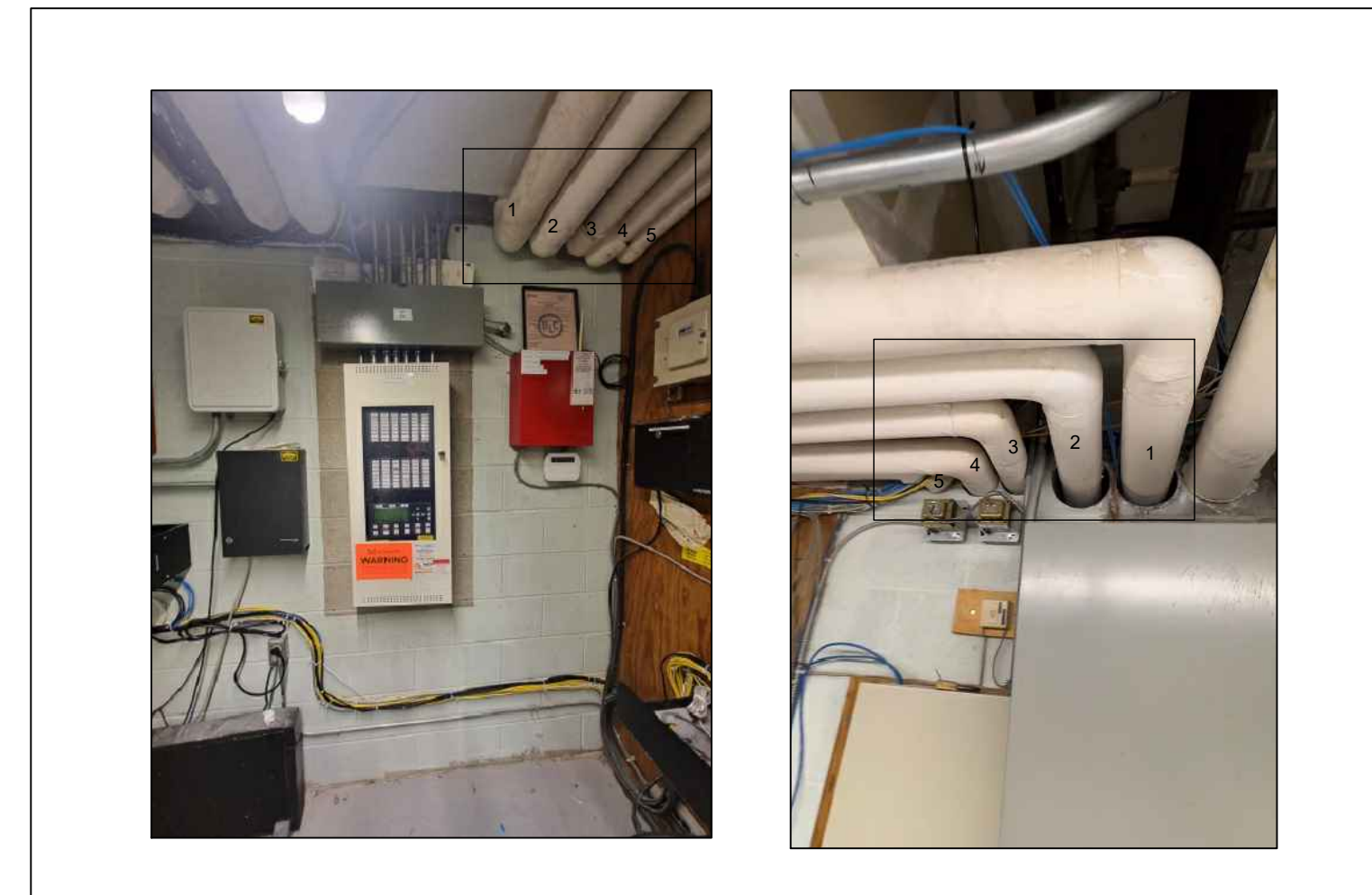


1 FIRST FLOOR -BOILER ROOM- EXISTING AND DEMOLITION PLAN
Scale: 1/2"



2 FIRST FLOOR -MECHANICAL ROOM- EXISTING AND DEMOLITION SCHEMATIC DIAGRAM
Scale: 1/2"

- DEMOLITION NOTES:**
- CONTRACTOR TO DEMOLISH EXISTING BOILERS WITH, DRAIN PIPE, CONNECTIONS AND ALL ASSOCIATED MECHANICAL, ELECTRICAL, AND CONTROL EQUIPMENT
 - CONTRACTOR TO DEMOLISH EXISTING HOT WATER TANKS WITH DRAIN PIPE, CONNECTIONS AND ALL ASSOCIATED MECHANICAL, ELECTRICAL, AND CONTROL EQUIPMENT.
 - CONTRACTOR TO DEMOLISH EXISTING PUMPS WITH ALL ASSOCIATED MECHANICAL, ELECTRICAL, AND CONTROL EQUIPMENT.
 - CONTRACTOR TO DEMOLISH EXISTING EXPANSION TANKS C/W ALL ASSOCIATED VALVES, SUPPORTS, AND PIPING.
 - CONTRACTOR TO DEMOLISH EXISTING AIR SEPARATOR,C/W ALL ASSOCIATED VALVES, SUPPORTS, AND PIPING.
 - EXISTING BOILERS TO BE REMAINED.
 - EXISTING MAIN NATURAL GAS PIPE TO BE REMAINED.
 - CONTRACTOR TO REMOVE THE EXISTING HWS PIPES WITH ALL ASSOCIATED VALVES, AND CONNECTIONS, UP TO INDICATED POINT ON THE DRAWINGS. (HWS TO HWT-1 & HWS TO HWT-2 & HWS TO SNOW MELTING SYS)
 - CONTRACTOR TO REMOVE THE EXISTING HWR PIPES, WITH ALL ASSOCIATED VALVES, PUMPS AND CONNECTIONS, UP TO INDICATED POINT ON THE DRAWINGS.(HWR FROM HWT-1 & HWR FROM HWT-2 & HWR FROM SNOW MELTING SYS)
 - CONTRACTOR TO DEMOLISH EXISTING DOMESTIC HW RECIRCULATING PUMP WITH ALL ASSOCIATED MECHANICAL, ELECTRICAL, AND CONTROL EQUIPMENT.
 - CONTRACTOR TO DEMOLISH EXISTING COLD WATER, HOT WATER AND HOT WATER RETURN PIPES WITH ALL ASSOCIATED CONNECTION, SUPPORT AND INSULATION. CONTRACTOR TO DEMOLISH 5 PIPES THAT PASS THROUGH THE ELECTRICAL ROOM AS MARKED IN FIGURES.
 - CONTRACTOR TO REMOVE EXISTING MAIN VENT FLUE DUCT. CONTRACTOR TO SEAL AND PATCH THE EXISTING ROOF OPENING AND MATCH WITH CEILING.
 - CONTRACTOR TO OBTAIN ALL REQUIRED TSSA APPROVAL REGARDING THE MODIFICATION IN THE GAS PIPING BOILER REMOVAL AND AND FLUE VENT AS REQUIRED BY LAW
 - EXISTING HOT WATER TANKS TO BE REMAINED.
 - CONTRACTOR TO REMOVE THE EXISTING COMBUSTION AIR DUCTS AND VENTILATION OPENINGS.



3 DN-1-FIRST FLOOR, PIPES PASS THROUGH ELECTRICAL ROOM

- GENERAL NOTES:**
- ALL EXISTING SERVICES SHOWN HAS BEEN EXTRACTED FROM AVAILABLE BASE BUILDING DRAWINGS AND RANDOM SITE SURVEYS. NOT ALL EXISTING SERVICES/SITE INFORMATION HAS BEEN SHOWN NOR CAN THE INFORMATION SHOWN BE GUARANTEED FOR PRECISE ACCURACY. CONTRACTOR SHALL THEREFORE VISIT THE SITE PRIOR TO SUBMITTING A BID TO SATISFY THEMSELVES THAT ALL WORK SHOWN AND/OR SPECIFIED CAN BE CARRIED OUT IN ACCORDANCE WITH THE CONTRACT DOCUMENT.
 - ALL EXISTING EQUIPMENT TAG NOS. USED ON THIS DRAWING ARE BASED ON EXISTING BASE BUILDING STANDARDS.
 - ALL CUTTING/PATCHING/CORING OF WALLS AND FLOORS REQUIRED TO ACCOMMODATE NEW MECHANICAL WORK IS TO BE ARRANGED AND PAID FOR BY MECHANICAL CONTRACTOR. X-RAY FLOORS/CONCRETE WALLS PRIOR TO CORING/CUTTING.
 - THE MECHANICAL DRAWINGS DO NOT SHOW ALL THE ARCHITECTURAL AND STRUCTURAL DETAILS. ANY SPECIFIC INFORMATION INVOLVING ACCURATE MEASURING OF THE BUILDING SHALL BE TAKEN FROM THE BUILDING DRAWINGS OR AT THE BUILDING. MAKE WITHOUT ADDITIONAL CHARGE, ANY NECESSARY CHANGES OR ADDITIONS TO THE RUNS OF DUCTS AND PIPES TO ACCOMMODATE THE ABOVE CONDITIONS.
 - COORDINATE WITH ALL OTHER TRADES AND SITE SUPERINTENDENT ON ALL WORK.
 - ALL ABANDONED PIPING WHICH ARE NO LONGER BEING USED SHALL BE REMOVED FROM THE SITE. CONTRACTOR SHALL ENSURE PRIOR TO REMOVAL OF ANY PIPING THAT THE SYSTEM IS COMPLETELY ISOLATED AND IS NOT ALIVE.
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 - ALL ROOFING AND PENETRATIONS SHALL BE DONE IN STRICT ACCORDANCE WITH STANDARD DETAILS AND ONLY BY APPROVED ROOFING TRADES. IF THE ROOF IS UNDER WARRANTY, ONLY THE WARRANTY HOLDER SHALL BE RETAINED TO PERFORM THE WORK.
 - REMOVE ALL EXISTING PNEUMATIC CONTROL DEVICES. NEW CONTROL SYSTEM TO BE DDC AND CONNECTED TO BAS.
 - ALL REDUNDANT WALL / ROOF OPENINGS SHALL BE SEALED AND FIRE-STOPPED AS REQUIRED.
 - CONTRACTOR TO INCLUDE REMOVAL/CUTTING OF WALL/FLOOR/CEILING AND REINSTALLING/FIXING/PATCHING/PAINTING TO MATCH EXISTING WHERE REQUIRED FOR DEMOLITION AND INSTALLATION OF NEW PIPES.
 - CONTRACTOR TO PROVIDE PROTECTION FOR ALL EXISTING DUCTWORK DURING CONSTRUCTION FROM DUST AND DEBRIS.
 - ALL PIPING MUST BE SUPPORTED FROM ROOF/CEILING STRUCTURE, THE INSTALLATION DETAILS MUST BE SUBMITTED TO THE CONSULTANT FOR REVIEW.
 - CONTRACTOR SHALL ALLOW FOR RELOCATION/REMOVAL AND RE-INSTALLATION OF WIRING, CONDUITS, LIGHTING WHERE THE NEW PIPING WILL BE INSTALLED.
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 - CONTRACTOR TO CHEMICALLY WASH AND CLEAN ALL THE EXISTING HWS/HWR PIPING.
 - CONTRACTOR TO PROVIDE WATER FLOW PRE ADUIT TO CONFIRM THE EXISTING FLOW RATE PRIOR TO DEMOLITION WORK AND SUBMIT REPORT TO CONSULTANT.

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2	2024-DEC-04	ISSUED FOR 100% REVIEW
1	2024-NOV-15	ISSUED FOR 90% REVIEW
0	2024-OCT-22	ISSUED FOR 50% REVIEW

Key Plan

True North

P.N. = PROJECT NORTH
T.N. = TRUE NORTH

Engineer Logo

250 SHEPPARD AVE EAST, SUITE 2006, TORONTO, ONTARIO, M2N 6M9
TEL: (416) 478-0158
FAX: (416) 478-5917

Client

Drawing Overall Scale

AS SHOWN

Project Name & Address

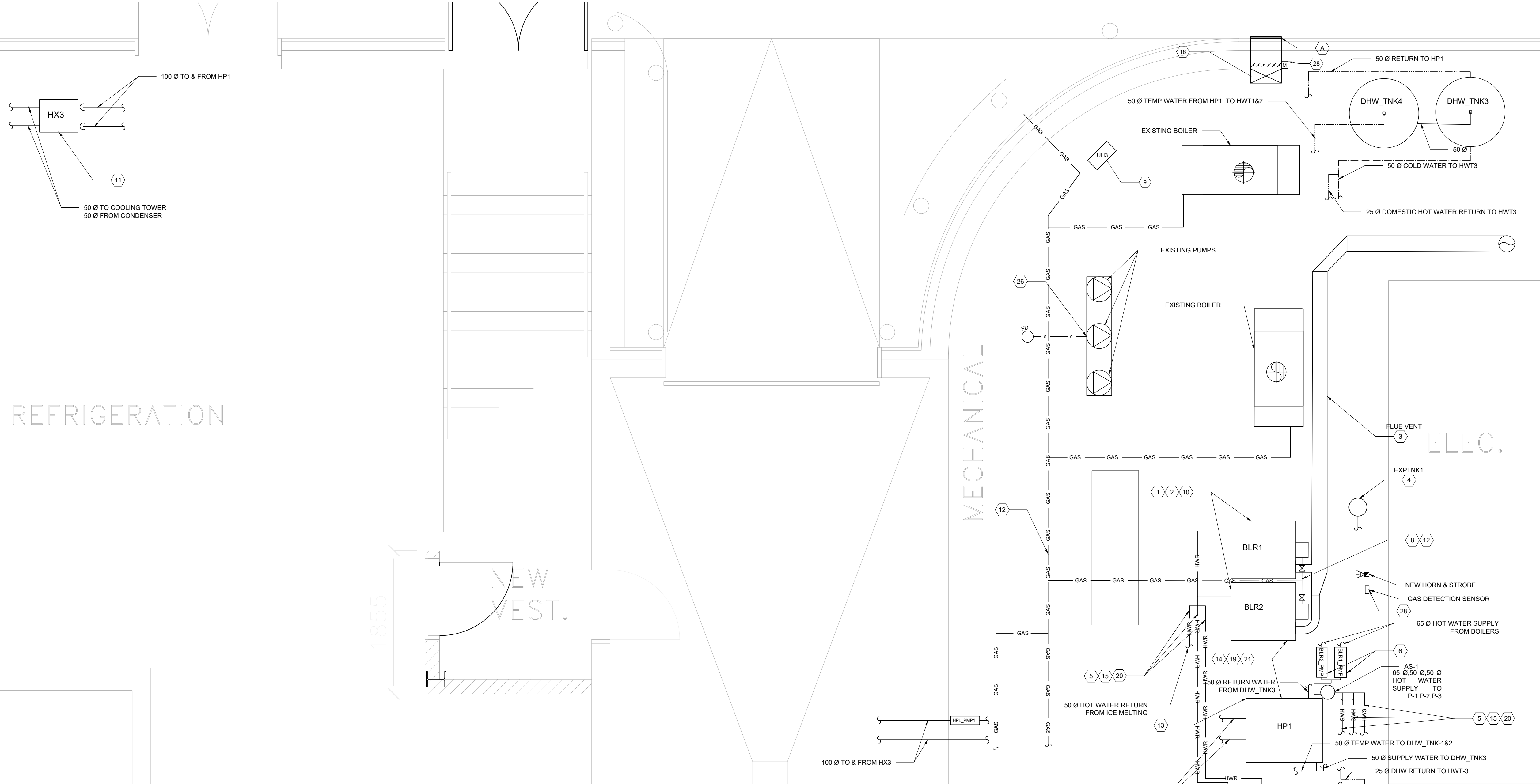
TOMKEN TWIN ARENA
MECHANICAL AND VARIOUS BUILDING LIFECYCLE RENEWALS
4495 TOMKEN RD, MISSISSAUGA, ON L4W 1J9

Drawing Title

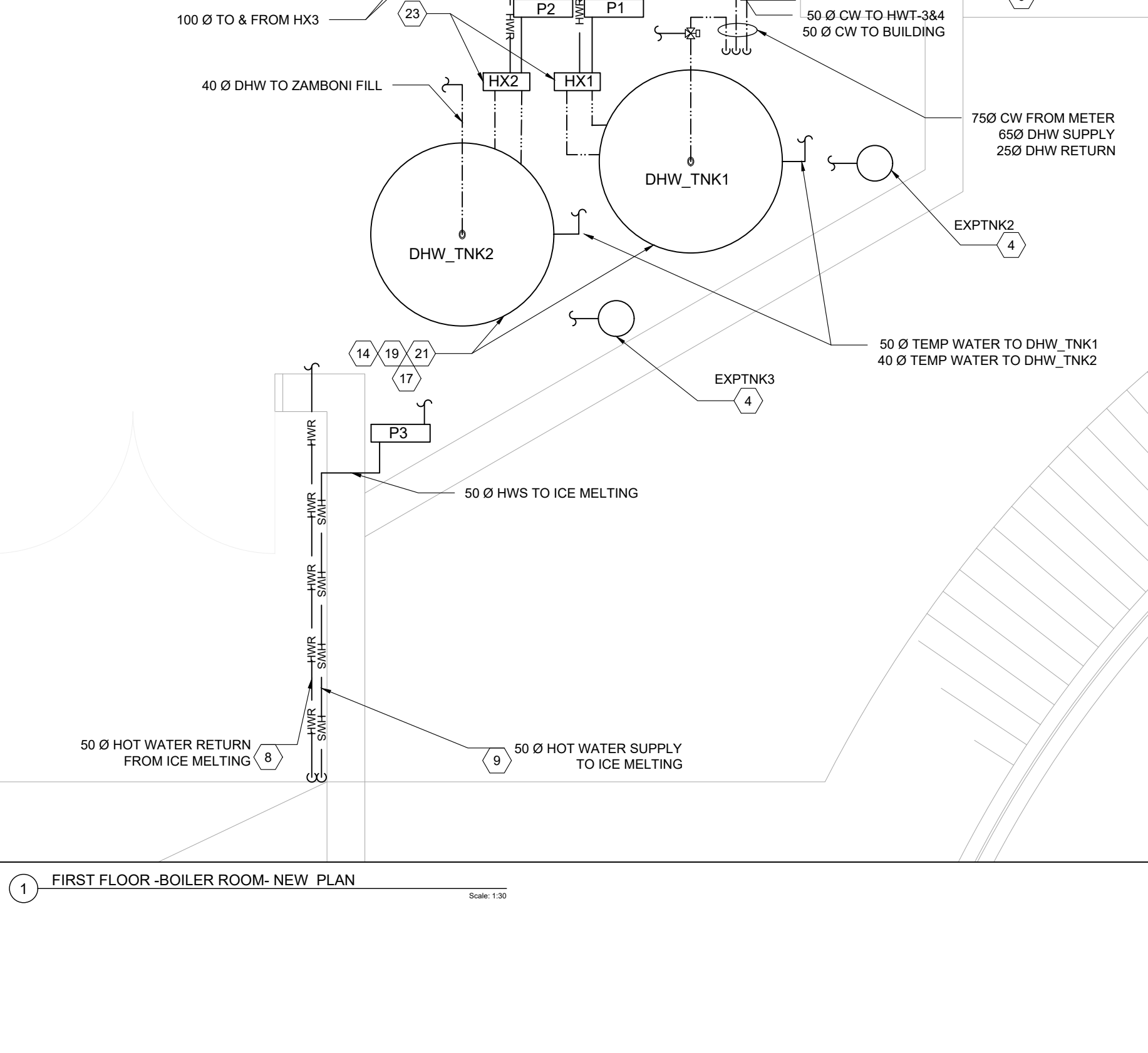
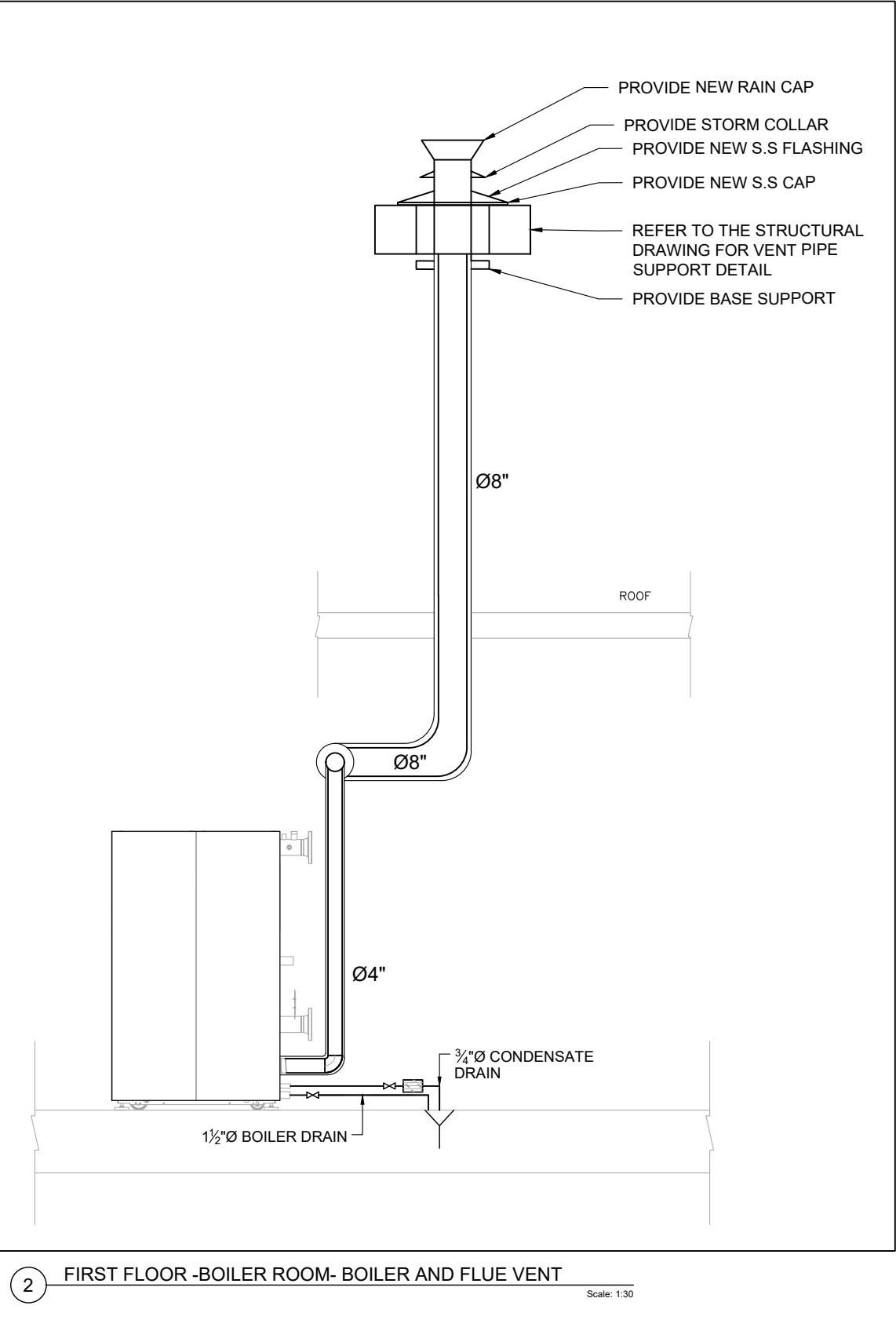
MECHANICAL SERVICES
FIRST FLOOR- BOILER ROOM- DEMOLITION WORK

DATE: 2024-OCT-22
DESIGNED BY: A.M.
DRAWN BY: A.M.
APPROVED BY: M.A.
PROJECT NO.: 1024104

Engineer / Architect Stamp

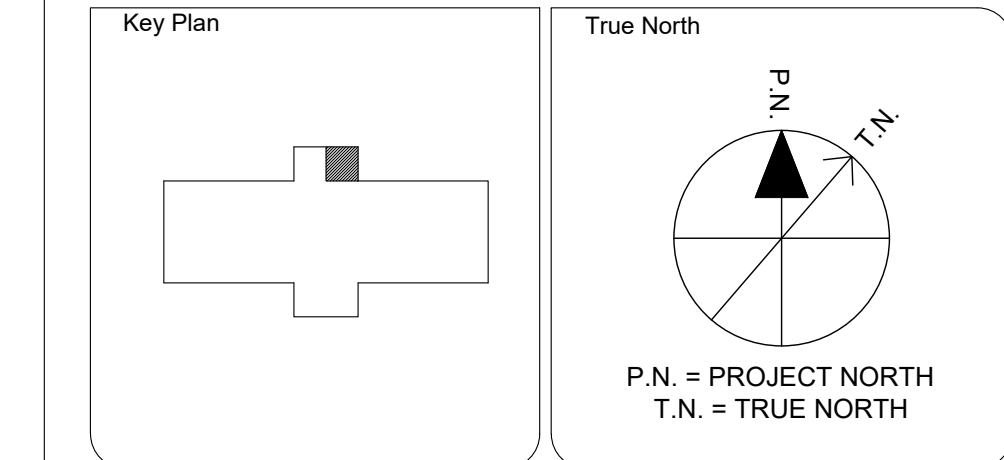


- DESIGN NOTES:**
- PROVIDE NEW GAS FIRED CONDENSING HOT WATER BOILERS AS PER EQUIPMENT SCHEDULE. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. C/W ALL ASSOCIATED NEW SHOT OFF, PRESSURE RELIEF, DRAIN AND CONTROL VALVES. CONNECT THE SUPPLY AND RETURN HOT WATER PIPES, GAS PIPING CONNECTIONS AND ACCESSORIES, POWER AND CONTROL POINTS.
 - HAVE THE WORK INSPECTED AND CERTIFIED BY PV (BOILERS AND PRESSURE VESSELS REG.) OR (OPERATING ENGINEERS REG.) AND FS (FUEL SAFETY REG.) BRANCHES OF TSSA AT THE END OF THE WORK. THE NEW PLANT SHALL BE FULLY TSSA CERTIFIED BY ALL BRANCHES NOTED HEREIN. PROVIDE GROUNDING FOR GAS PIPES.
 - SUPPLY AND INSTALL NEW INSULATED 4" FLUE VENT FOR EACH BOILER CONNECTED TO 4" I.D. FLUE VENT TO THE ROOF AND AT LEAST 3 FEET ABOVE THE ROOF. PROVIDE AND INSTALL 1" DRAIN PIPING FOR NEW BREACHING WITH MINIMUM OF 2% SLOPE. DRAIN PIPE C/W NEUTRALIZER KIT AND TERMINATE ABOVE FUNNEL FLOOR DRAIN. USE AL29-4C AS PER SPECIFICATIONS. PROVIDE SUPPORT AS REQUIRED.
 - PROVIDE AND INSTALL NEW EXPANSION TANKS C/W PIPING CONNECTIONS AND VALVES AS PER SCHEDULE AND IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. INSTALL THE TANKS AT HEIGHT.
 - PROVIDE AND INSTALL NEW INSULATED SUPPLY AND RETURN HOT WATER PIPES, C/W ALL ASSOCIATED CONTROL VALVES, STRAINER, SHUT OFF VALVES, BALANCING VALVES AND SUPPORTS FOR THE NEW BOILERS AND PUMPS IN THE MECHANICAL ROOM AND CONNECT TO EXISTING PIPES. EXACT PIPING LAYOUT SHALL BE VERIFIED AT SITE. PROVIDE AUTOMATIC AIR VENT AT THE HIGHEST POINT OF THE PIPING SYSTEM AS REQUIRED. SUPPORTS SHALL BE PROVIDED AS PER DETAIL DRAWING.
 - PROVIDE AND INSTALL NEW RE-CIRCULATION IN LINE DHW PUMP AS PER SCHEDULE. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
 - PROVIDE AND INSTALL NEW PUMPS AS PER SCHEDULE. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
 - PROVIDE AND INSTALL NEW GAS PIPES AND GAS VENT, C/W ALL ASSOCIATED GAS TRAIL SUPPORTS FOR THE NEW BOILERS AND CONNECT TO EXISTING GAS PIPES. EXACT PIPING LAYOUT SHALL BE VERIFIED AT SITE.
 - PROVIDE AND INSTALL NEW UNIT HEATER AS PER EQUIPMENT SCHEDULE. C/W NEW LINE VOLTAGE THERMOSTAT, ALL ASSOCIATED PIPING, VALVES, SUPPORTS, ELECTRIC POWER AND CONTROL. EXACT PIPING LAYOUT SHALL BE VERIFIED AT SITE.
 - NEW BOILERS TO BE BROUGHT IN THE MECHANICAL ROOM THROUGH THE EXISTING DOOR CONTRACTOR MUST FOLLOW MANUFACTURER MINIMUM CLEARANCE RECOMMENDATION. REFER TO MANUFACTURER INSTRUCTION FOR MORE DETAIL.
 - PROVIDE AND INSTALL NEW HEAT EXCHANGER PIPING CONNECTIONS AND VALVES AS PER SCHEDULE AND IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
 - AS PER CSA B149.1-15, PAINT THE FULL CIRCUMFERENCE OF THE GAS PIPING YELLOW AND LABEL THE FULL LENGTH OF THE GAS PIPING STATING GAS PIPE PRESSURE WITH LABELS.
 - PROVIDE AND INSTALL NEW HEAT PUMP PIPING CONNECTIONS AND VALVES AS PER SCHEDULE AND IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
 - CONTRACTOR TO PROVIDE AND PAINT 2 COATS OF EPOXY PAINTING FOR BOILER ROOM. PAINT THE ENTIRE FLOOR OF THE NEW BOILER ROOM WITH URETHANE-BASED PAINT, BATTLE SHIP GRAY, YELLOW FOR HOUSE KEEPING PADS AND WHITE CEILING & WALLS. FOLLOW PAINT MANUFACTURER INSTRUCTION PERTAINING TO PRIMING AND PRE-TREATING THE SURFACES PRIOR TO PAINTING.
 - PROVIDE PROPER SUPPORT AND INSULATION FOR ALL PIPES INSIDE AND OUTSIDE OF THE BOILER ROOM.
 - PROVIDE AND INSTALL 22" X 22" COMBUSTION AIR OPENING C/W LOUVRE AS PER EQUIPMENT SCHEDULE. PROVIDE AND INSTALL 22" X 12" COMBUSTION AIR DUCT AS PER DRAWINGS.
 - PROVIDE TWO NEW DOMESTIC WATER TANKS AS PER EQUIPMENT SCHEDULE. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, C/W ALL ASSOCIATED NEW DRAIN AND CONTROL VALVES. CONNECT THE COLD WATER SUPPLY, HOT WATER SUPPLY AND HOT WATER RETURN PIPES, POWER AND CONTROL POINTS.
 - EXISTING MAIN CW ENTRY AND METER STATION TO REMAIN.
 - INSTALL THE EQUIPMENT ON THE EXISTING HOUSE KEEPING CONCRETE PAD. FOR THE BOILERS EXTEND THE HOUSE KEEPING CONCRETE PAD AS SHOWN IN STRUCTURAL DRAWING (S-01).
 - CONTRACTOR TO HIRE STRUCTURAL ENGINEER FOR DESIGNING NEW PIPE SUPPORTS. NEW PIPES TO BE SUPPORTED FROM CEILING OR ON THE FLOOR. SUBMIT THE SHOP DRAWING TO CONSULTANT FOR REVIEW.
 - PROVIDE NEW DRAIN PIPE TO THE NEAREST FLOOR DRAIN.
 - CONTRACTOR TO PROVIDE NEW AIR SEPARATOR ACCORDING TO THE PIPE SIZE. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
 - PUMP AND PLATE HEAT EXCHANGER FOR EACH HOT WATER TANK SHOULD BE PROVIDED BY THE MANUFACTURER.
 - CONTRACTOR TO MODIFY THE CONDENSER LINE AND PROVIDE AND INSTALL NEW 8" BUTTERFLY VALVE. CONTRACTOR TO PROVIDE AND INSTALL A 2" BALANCING VALVE ON THE HEAT EXCHANGER LINE.
 - EXISTING AMMONIA CONDENSER PUMP.
 - CONTRACTOR TO PROVIDE A NEW TRAY AND DRAIN PIPE TO NEAREST FD FOR THREE EXISTING PUMPS.
 - PROVIDE AND INSTALL HONEYWELL NATURAL GAS AND CARBON MONOXIDE GAS DETECTION MONITORING SYSTEM. INSTALL TO NEW GAS DETECTION CONTROL PANEL AS PER MANUFACTURER'S INSTALLATION INSTRUCTION AND CONNECT TO SURVEILLANCE SYSTEM UPON DETECTION OF GAS. ALARM RELAY CONTACTS WITHIN THE CONTROL PANEL ACTIVATE AUDIBLE AND VISUAL ALARMS.
 - PROVIDE DAMPERS C/W DDC ACTUATOR. CONNECT THE ACTUATORS TO BAS C/W ALL REQUIRED WIRING. CONNECT TO ALL EXISTING AND NEW BOILERS.



- GENERAL NOTES:**
- ALL EXISTING SERVICES SHOWN HAS BEEN EXTRACTED FROM AVAILABLE BASE BUILDING DRAWINGS AND RANDOM SITE SURVEYS. NOT ALL EXISTING SERVICES/SITE INFORMATION HAS BEEN SHOWN NOR CAN THE INFORMATION SHOWN BE GUARANTEED FOR PRECISE ACCURACY. CONTRACTOR SHALL THEREFORE VISIT THE SITE PRIOR TO SUBMITTING A BID TO SATISFY THEMSELVES THAT ALL WORK SHOWN AND/OR SPECIFIED CAN BE CARRIED OUT IN ACCORDANCE WITH THE CONTRACT DOCUMENT.
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 - ALL CUTTING/PATCHING/CORING OF WALLS AND FLOORS REQUIRED TO ACCOMMODATE NEW MECHANICAL WORK IS TO BE ARRANGED AND PAID FOR BY MECHANICAL CONTRACTOR. X-RAY FLOORS/CONCRETE WALLS PRIOR TO CORING/CUTTING.
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 - REMOVE ALL EXISTING PNEUMATIC CONTROL DEVICES. NEW CONTROL SYSTEM TO BE DDC AND CONNECTED TO BAS.
 - ALL REDUNDANT WALL / ROOF OPENINGS SHALL BE SEALED AND FIRE-STOPPED AS REQUIRED.
 - CONTRACTOR TO INCLUDE REMOVAL/CUTTING OF WALL/FLOOR/CEILING AND REINSTALLING/FIXING/PATCHING/PAINTING TO MATCH EXISTING WHERE REQUIRED FOR DEMOLITION AND INSTALLATION OF NEW PIPES.
 - CONTRACTOR TO PROVIDE PROTECTION FOR ALL EXISTING DUCTWORK DURING CONSTRUCTION FROM DUST AND DEBRIS.
 - ALL PIPING MUST BE SUPPORTED FROM ROOF/CEILING STRUCTURE. THE INSTALLATION DETAILS MUST BE SUBMITTED TO THE CONSULTANT FOR REVIEW.
 - CONTRACTOR SHALL ALLOW FOR RELOCATION/REMOVAL AND RE-INSTALLATION OF WIRING, CONDUITS, LIGHTING WHERE THE NEW PIPING WILL BE INSTALLED.
 - CONTRACTOR SHALL ALLOW FOR ALL THE WORK RELATED TO DEMOLITION AND FIXING WALL AND DRYWALL, CEILING AND ETC.
 - CONTRACTOR TO CHEMICALLY WASH AND CLEAN ALL THE EXISTING HWS/HWR PIPING.
 - CONTRACTOR TO PROVIDE WATER FLOW PRE AUDIT TO CONFIRM THE EXISTING FLOW RATE PRIOR TO DEMOLITION WORK AND SUBMIT REPORT TO CONSULTANT.

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Engineer Logo
Spectra Engineering
 250 SHEPPARD AVE. EAST, SUITE 2006, TORONTO, ONTARIO, M2N 6M9
 TEL: (416) 478-5150
 FAX: (416) 478-5917

Client
MISSISSAUGA

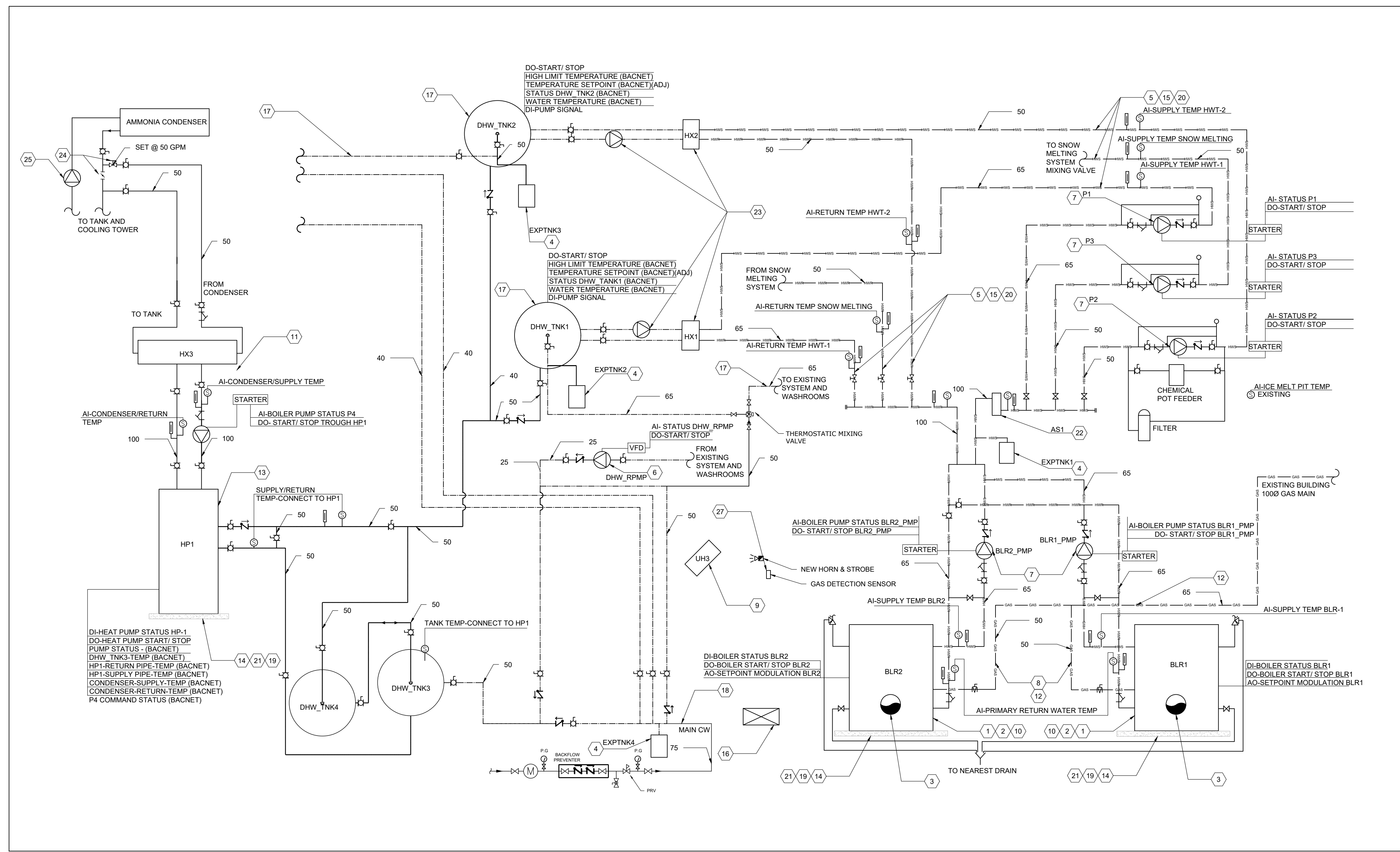
Drawing Overall Scale
 AS SHOWN

Project Name & Address
TOMKEN TWIN ARENA
 MECHANICAL AND VARIOUS BUILDING LIFECYCLE RENEWALS
 4495 TOMKEN RD, MISSISSAUGA, ON L4W 1J9

Drawing Title
MECHANICAL SERVICES
 FIRST FLOOR- BOILER ROOM- NEW WORK PLAN

DATE: 2024-OCT-22
 DESIGNED BY: A.M.
 DRAWN BY: A.M.
 APPROVED BY: M.A.
 PROJECT NO.: 1024104

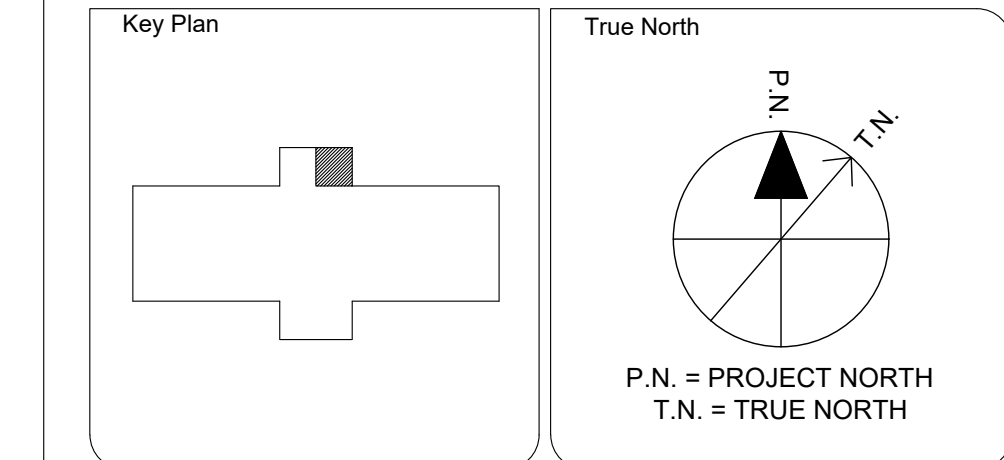
Engineer / Architect Stamp
 LICENSED PROFESSIONAL ENGINEER
 M. AKHAWANBAZ
 100088319
 2024-DEC-17
 PROVINCE OF ONTARIO



1 FIRST FLOOR - BOILER ROOM - NEW WORK PLAN

- GENERAL NOTES:
- ALL EXISTING SERVICES SHOWN HAS BEEN EXTRACTED FROM AVAILABLE BASE BUILDING DRAWINGS AND RANDOM SITE SURVEYS. NOT ALL EXISTING SERVICES/SITE INFORMATION HAS BEEN SHOWN NOR CAN THE INFORMATION SHOWN BE GUARANTEED FOR PRECISE ACCURACY. CONTRACTOR SHALL THEREFORE VISIT THE SITE PRIOR TO SUBMITTING A BID TO SATISFY THEMSELVES THAT ALL WORK SHOWN AND/OR SPECIFIED CAN BE CARRIED OUT IN ACCORDANCE WITH THE CONTRACT DOCUMENT.
 - ALL EXISTING EQUIPMENT TAG NOS. USED ON THIS DRAWING ARE BASED ON EXISTING BASE BUILDING STANDARDS.
 - ALL CUTTING/PATCHING/CORING OF WALLS AND FLOORS REQUIRED TO ACCOMMODATE NEW MECHANICAL WORK IS TO BE ARRANGED AND PAID FOR BY MECHANICAL CONTRACTOR. X-RAY FLOORS/CONCRETE WALLS PRIOR TO CORING/CUTTING.
 - THE MECHANICAL DRAWINGS DO NOT SHOW ALL THE ARCHITECTURAL AND STRUCTURAL DETAILS. ANY SPECIFIC INFORMATION INVOLVING ACCURATE MEASURING OF THE BUILDING SHALL BE TAKEN FROM THE BUILDING DRAWINGS OR AT THE BUILDING MAKE WITHOUT ADDITIONAL CHARGE. ANY NECESSARY CHANGES OR ADDITIONS TO THE RUNS OF DUCTS AND PIPES TO ACCOMMODATE THE ABOVE CONDITIONS.
 - COORDINATE WITH ALL OTHER TRADES AND SITE SUPERINTENDENT ON ALL WORK.
 - ALL ABANDONED PIPING WHICH ARE NO LONGER BEING USED SHALL BE REMOVED FROM THE SITE. CONTRACTOR SHALL ENSURE PRIOR TO REMOVAL OF ANY PIPING THAT THE SYSTEM IS COMPLETELY ISOLATED AND IS NOT ALIVE.
 - WORK SHALL INCLUDE STARTUP OF ALL SYSTEMS, FURNISHING OF OPERATING AND MAINTENANCE INSTRUCTIONS, AND ONE (1) YEAR GUARANTEE, COMMENCING ON THE DATE OF ACCEPTANCE BY THE TENANT.
 - ALL ROOFING AND PENETRATIONS SHALL BE DONE IN STRICT ACCORDANCE WITH STANDARD DETAILS AND ONLY BY APPROVED ROOFING TRADES. IF THE ROOF IS UNDER WARRANTY, ONLY THE WARRANTY HOLDER SHALL BE RETAINED TO PERFORM THE WORK.
 - REMOVE ALL EXISTING PNEUMATIC CONTROL DEVICES. NEW CONTROL SYSTEM TO BE DDC AND CONNECTED TO BAS.
 - ALL REDUNDANT WALL / ROOF OPENINGS SHALL BE SEALED AND FIRE-STOPPED AS REQUIRED.
 - CONTRACTOR TO INCLUDE REMOVAL/CUTTING OF WALL/FLOOR/CEILING AND REINSTALLING/FIXING/PATCHING/PAINTING TO MATCH EXISTING WHERE REQUIRED FOR DEMOLITION AND INSTALLATION OF NEW PIPES.
 - CONTRACTOR TO PROVIDE PROTECTION FOR ALL EXISTING DUCTWORK DURING CONSTRUCTION FROM DUST AND DEBRIS.
 - ALL PIPING MUST BE SUPPORTED FROM ROOF/CEILING STRUCTURE, THE INSTALLATION DETAILS MUST BE SUBMITTED TO THE CONSULTANT FOR REVIEW.
 - CONTRACTOR SHALL ALLOW FOR RELOCATION/REMOVAL AND RE-INSTALLATION OF WIRING, CONDUITS, LIGHTING WHERE THE NEW PIPING WILL BE INSTALLED.
 - CONTRACTOR SHALL ALLOW FOR ALL THE WORK RELATED TO DEMOLITION AND FIXING WALL AND DRYWALL, CEILING AND ETC.
 - CONTRACTOR TO CHEMICALLY WASH AND CLEAN ALL THE EXISTING HWS/HWR PIPING.
 - CONTRACTOR TO PROVIDE WATER FLOW PRE AUDIT TO CONFIRM THE EXISTING FLOW RATE PRIOR TO DEMOLITION WORK AND SUBMIT REPORT TO CONSULTANT.

REV.	DATE	DESCRIPTION
3	2024-DEC-11	ISSUED FOR PERMIT AND TENDER
2	2024-DEC-4	ISSUED FOR 100% REVIEW
1	2024-NOV-15	ISSUED FOR 90% REVIEW
0	2024-OCT-22	ISSUED FOR 50% REVIEW



Engineer Logo
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Client
MISSISSAUGA

Drawing Overall Scale
 AS SHOWN

Project Name & Address
TOMKEN TWIN ARENA
 MECHANICAL AND VARIOUS BUILDING LIFECYCLE RENEWALS
 4495 TOMKEN RD, MISSISSAUGA, ON L4W 1J9

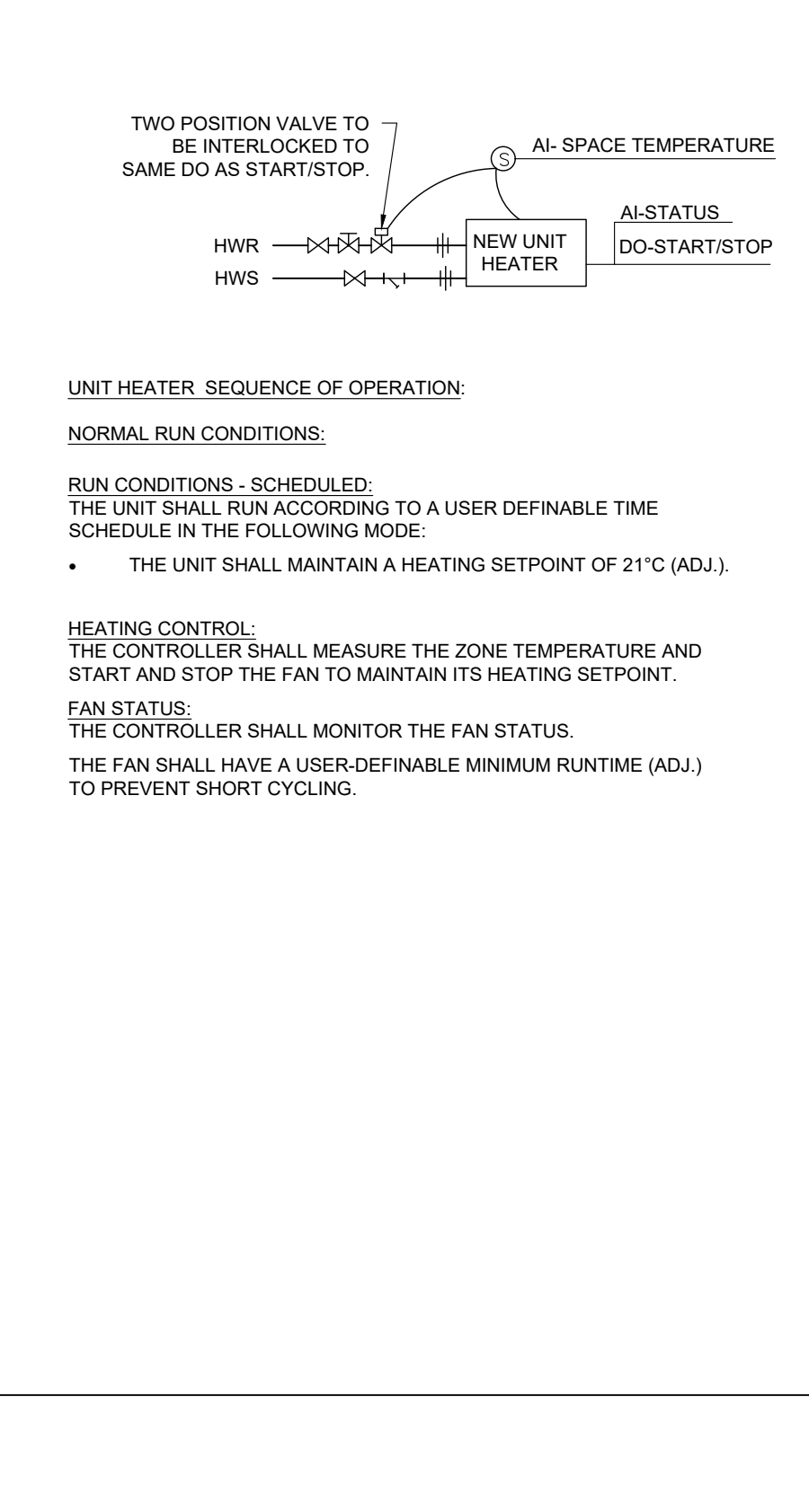
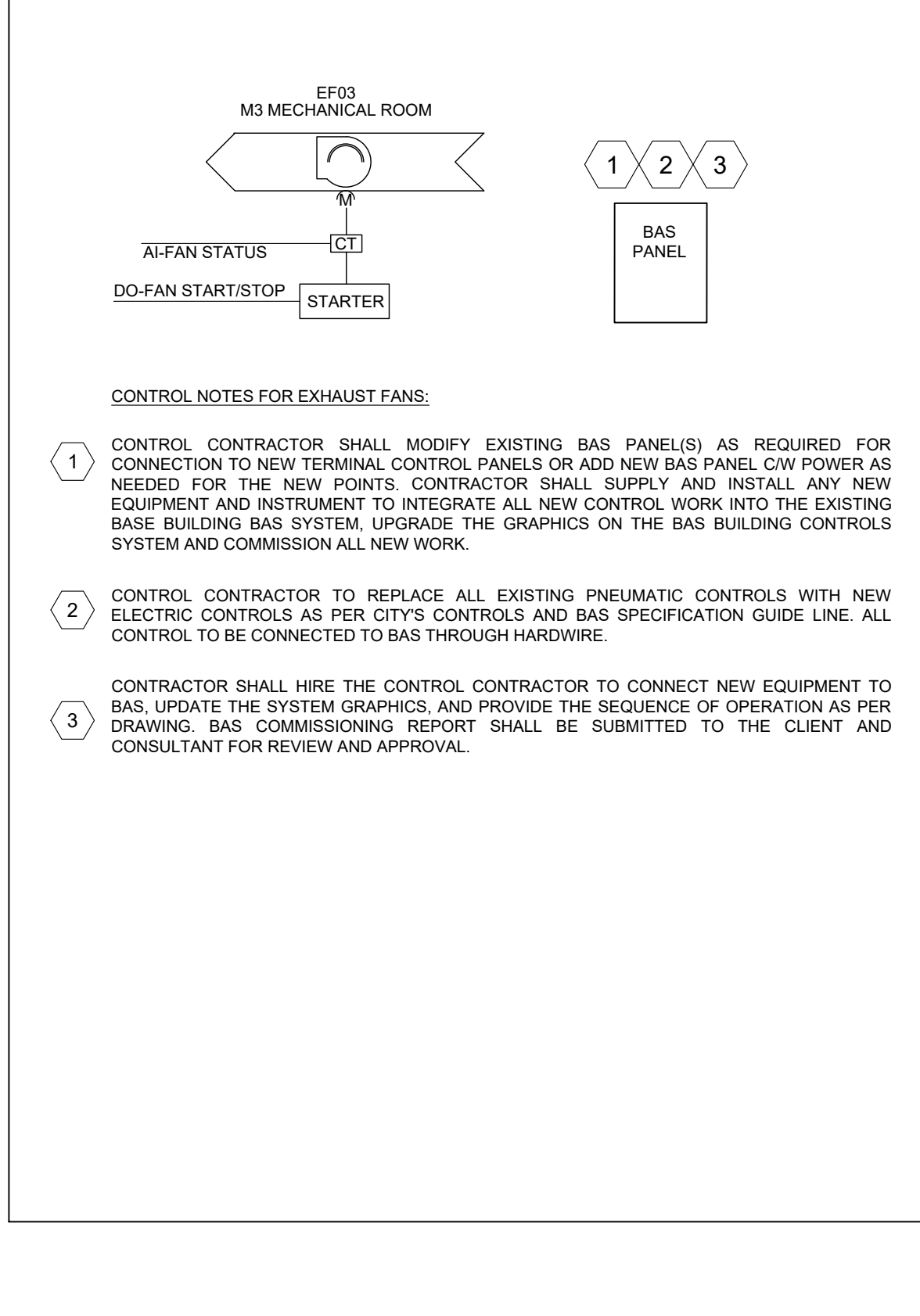
Drawing Title
MECHANICAL SERVICES
 FIRST FLOOR - BOILER ROOM- NEW WORK

DATE: 2024-OCT-22
 DESIGNED BY: A.M.
 DRAWN BY: A.M.
 APPROVED BY: M.A.
 PROJECT NO.: 1024104

Engineer / Architect Stamp
 LICENSED PROFESSIONAL ENGINEER
 M. KHAVANBAZ
 100088319
 2024-DEC-17
 PROVINCE OF ONTARIO

- DESIGN NOTES:**
- PROVIDE NEW GAS FIRED CONDENSING HOT WATER BOILERS AS PER EQUIPMENT SCHEDULE. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. C/W ALL ASSOCIATED NEW SHOT OFF, PRESSURE RELIEF, DRAIN AND CONTROL VALVES. CONNECT THE SUPPLY AND RETURN HOT WATER PIPES, GAS PIPING CONNECTIONS AND ACCESSORIES, POWER AND CONTROL POINTS.
 - HAVE THE WORK INSPECTED AND CERTIFIED BY PV (BOILERS AND PRESSURE VESSELS REG), OE (OPERATING ENGINEERS REG.) AND FS (FUEL SAFETY REG.) BRANCHES OF TSSA. AT THE END OF THE WORK, THE NEW PLANT SHALL BE FULLY TSSA CERTIFIED BY ALL BRANCHES NOTED HEREIN. PROVIDE GROUNDING FOR GAS PIPES.
 - SUPPLY AND INSTALL NEW INSULATED 4" FLUE VENT FOR EACH BOILER CONNECTED TO 8" ID. FLUE VENT TO THE ROOF AND AT LEAST 3 FEET ABOVE THE ROOF. PROVIDE AND INSTALL 1" DRAIN PIPING FOR NEW BREACHING WITH MINIMUM OF 2% SLOPE. DRAIN PIPE C/W NEUTRALIZER KIT AND TERMINATE ABOVE FUNNEL FLOOR DRAIN. USE AL29-4C AS PER SPECIFICATIONS. PROVIDE SUPPORT AS REQUIRED.
 - PROVIDE AND INSTALL NEW EXPANSION TANKS C/W PIPING CONNECTIONS AND VALVES AS PER SCHEDULE AND IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. INSTALL THE TANKS AT HEIGHT.
 - PROVIDE AND INSTALL NEW INSULATED SUPPLY AND RETURN HOT WATER PIPES, C/W ALL ASSOCIATED CONTROL VALVES, STRAINER, SHUT OFF VALVES, BALANCING VALVES AND SUPPORTS FOR THE NEW BOILERS AND PUMPS IN THE MECHANICAL ROOM AND CONNECT TO EXISTING PIPES. EXACT PIPING LAYOUT SHALL BE VERIFIED AT SITE. PROVIDE AUTOMATIC AIR VENT AT THE HIGHEST POINT OF THE PIPING SYSTEM AS REQUIRED. SUPPORTS SHALL BE PROVIDED AS PER DETAIL DRAWING.
 - PROVIDE AND INSTALL NEW RE-CIRCULATION IN LINE DHW PUMP AS PER SCHEDULE. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
 - PROVIDE AND INSTALL NEW PUMPS AS PER SCHEDULE. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
 - PROVIDE AND INSTALL NEW GAS PIPES AND GAS VENT, C/W ALL ASSOCIATED GAS TRAIN, SUPPORTS FOR THE NEW BOILERS AND CONNECT TO EXISTING GAS PIPES. EXACT PIPING LAYOUT SHALL BE VERIFIED AT SITE.
 - PROVIDE AND INSTALL NEW UNIT HEATER AS PER EQUIPMENT SCHEDULE, C/W NEW LINE VOLTAGE THERMOSTAT, ALL ASSOCIATED PIPING, VALVES, SUPPORTS, ELECTRIC POWER AND CONTROL. EXACT PIPING LAYOUT SHALL BE VERIFIED AT SITE.
 - NEW BOILERS TO BE BROUGHT IN THE MECHANICAL ROOM THROUGH THE EXISTING DOOR. CONTRACTOR MUST FOLLOW MANUFACTURER MINIMUM CLEARANCE. RECOMMENDATION. REFER TO MANUFACTURER INSTRUCTION FOR MORE DETAIL.
 - PROVIDE AND INSTALL NEW HEAT EXCHANGER PIPING CONNECTIONS AND VALVES AS PER SCHEDULE AND IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
 - AS PER CSA B149.1-1.5, PAINT THE FULL CIRCUMFERENCE OF THE GAS PIPING YELLOW AND LABEL THE FULL LENGTH OF THE GAS PIPING STATING GAS PIPE PRESSURE WITH LABELS.
 - PROVIDE AND INSTALL NEW HEAT PUMP PIPING CONNECTIONS AND VALVES AS PER SCHEDULE AND IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
 - CONTRACTOR TO PROVIDE AND PAINT 2 COATS OF EPOXY PAINTING FOR BOILER ROOM. PAINT THE ENTIRE FLOOR OF THE NEW BOILER ROOM WITH URETHANE-BASED PAINT, BATTLE SHIP GRAY, YELLOW FOR HOUSE KEEPING PADS AND WHITE CEILING & WALLS. FLOW PAINT MANUFACTURER INSTRUCTION PERTAINING TO PRIMING AND PRE-TREATING THE SURFACES PRIOR TO PAINTING.
 - PROVIDE PROPER SUPPORT AND INSULATION FOR ALL PIPES INSIDE AND OUTSIDE OF THE BOILER ROOM.
 - PROVIDE AND INSTALL 22" X 22" COMBUSTION AIR OPENING C/W LOUVRE AS PER EQUIPMENT SCHEDULE. PROVIDE AND INSTALL 22"X12" COMBUSTION AIR DUCT AS PER DRAWINGS.
 - PROVIDE TWO NEW DOMESTIC WATER TANKS AS PER EQUIPMENT SCHEDULE. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. C/W ALL ASSOCIATED NEW DRAIN AND CONTROL VALVES. CONNECT THE COLD WATER SUPPLY, HOT WATER SUPPLY AND HOT WATER RETURN PIPES, POWER AND CONTROL POINTS.
 - EXISTING MAIN CW ENTRY AND METER STATION TO REMAIN.
 - INSTALL THE EQUIPMENT ON THE EXISTING HOUSE KEEPING CONCRETE PAD. FOR THE BOILERS EXTEND THE HOUSE KEEPING CONCRETE PAD AS SHOWN IN STRUCTURAL DRAWING (S-01).
 - CONTRACTOR TO HIRE STRUCTURAL ENGINEER FOR DESIGNING NEW PIPE SUPPORTS. NEW PIPES TO BE SUPPORTED FROM CEILING OR ON THE FLOOR. SUBMIT THE SHOP DRAWING TO CONSULTANT FOR REVIEW.
 - PROVIDE NEW DRAIN PIPE TO THE NEAREST FLOOR DRAIN.
 - CONTRACTOR TO PROVIDE NEW AIR SEPARATOR ACCORDING TO THE PIPE SIZE. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
 - PUMP AND PLATE HEAT EXCHANGER FOR EACH HOT WATER TANK SHOULD BE PROVIDED BY THE MANUFACTURER.
 - CONTRACTOR TO MODIFY THE CONDENSER LINE AND PROVIDE AND INSTALL NEW 8" BUTTERFLY VALVE. CONTRACTOR TO PROVIDE AND INSTALL A 2" BALANCING VALVE ON THE HEAT EXCHANGER LINE.
 - EXISTING AMMONIA CONDENSER PUMP.
 - CONTRACTOR TO PROVIDE A NEW TRAY AND DRAIN PIPE TO NEAREST FD FOR THREE EXISTING PUMPS.
 - PROVIDE AND INSTALL HONEYWELL NATURAL GAS AND CARBON MONOXIDE GAS DETECTION MONITORING SYSTEM. INSTALL TO NEW GAS DETECTION CONTROL PANEL AS PER MANUFACTURER'S INSTALLATION INSTRUCTION AND CONNECT TO SURVEILLANCE SYSTEM UPON DETECTION OF GAS, ALARM RELAY CONTACTS WITHIN THE CONTROL PANEL ACTIVATE AUDIBLE AND VISUAL ALARMS.
 - PROVIDE DAMPERS C/W DDC ACTUATOR. CONNECT THE ACTUATORS TO BAS C/W ALL REQUIRED WIRING. CONNECT TO ALL EXISTING AND NEW BOILERS.

- DOMESTIC HOT WATER HEATING SYSTEM SEQUENCE**
- HEAT PUMP**
 - THE CONTROLLER OF THE HEAT PUMP (HP1) ACT STAND-ALONE AND MAINTAINS THE TEMPERATURE OF DHW_TNK3 (T=140F, ADJ.). THE CONTROLLER STARTS THE HP1 AND ITS PUMP (INSIDE THE HP1) BY LOW LIMIT TEMP. OF THE DHW_TNK3 AND HIGH TEMP. LIMIT OF THE RETURN WATER GOING INTO THE HP1. THE HP1 CONTROLS THE P4 DIRECTLY.
 - BAS WILL ALLOW HP1 TO BE ENABLED WHEN AMMONIA CONDENSER PUMP IS ON.
 - BOILERS**
 - BOILERS ARE CONTROLLED IN A LEAD-LAG SCENARIO.
 - IF THE LEAD BOILER IS STARTED AND OPERATING STATUS IS NOT DETECTED WITHIN 15 MINUTES, THEN THE BOILER TO BE REGARDED AS "FAILED" AND SHALL BE REMOVED FROM THE FIRING SEQUENCE. THE LAG BOILER SHALL AUTOMATICALLY BE FIRED AS THE LEAD BOILER. THE START COMMAND SHALL BE MAINTAINED CONTINUOUSLY ON THE FAILED BOILER UNTIL A CORRECT BOILER STATUS IS RECEIVED. IF THIS OCCURS, THE BOILER SHALL NO LONGER BE REGARDED AS BEING FAILED AND SHALL BE RETURNED TO OPERATING.
 - THE LEAD BOILER AND LAG BOILERS TO BE CHANGED EVERY 15 DAYS. IF A BOILER IS NOT TURNED ON FOR 15 DAYS, IT SHALL BE CHANGED TO LEAD BOILER AND TURNED ON WITH THE P2 (SNOW MELT PUMP) FOR SOME MINUTES (ADJ.).
 - P1 TURNS ON BY DEMAND COMMAND OF THE DHW_TNK1
 - 2 TURNS ON BY CONTROLLING THE TEMP. OF THE ICE MELT PIT.
 - 3 TURNS ON BY DEMAND COMMAND OF THE DHW_TNK2
 - EACH PUMP SHALL STAYS ON AT LEAST FOR 5 MINUTES (ADJ.).
 - THE HEATING FLAG IS ON WHEN ANY SECONDARY PUMP (P1, P2, P3) TURNS ON.
 - THE LEAD BOILER CIRCULATION PUMPS SHALL START, IF THE HEATING FLAG IS ON, THEN THE LEAD BOILER IS REQUIRED TO OPERATE. THE LEAD BOILER PUMP SHALL CONTINUE TO OPERATE FOR A PERIOD OF 10 MINUTES AFTER THE BOILER IS CUT OFF.
 - IF THE LEAD BOILER HAS BEEN OPERATING CONTINUOUSLY FOR 15 MINUTES OR MORE AND THE SUPPLY WATER TEMPERATURE IS STILL BELOW SETPOINT, THEN THE LAG BOILER SHALL BE STARTED.
 - THE BOILER SHALL MODULATE ITSELF AND BAS JUST RESETS THE BOILER SETPOINT.
 - EXHAUST FAN SEQUENCE**
 - START/STOP: THE BAS SHALL ENABLE THE EF TO START WHEN COMMANDED ON THROUGH AN ASSOCIATED SCHEDULE OR FOR A PROGRAMMED EVENT. AT ALL OTHER TIMES THE EF SHALL BE SCHEDULE OFF. IF EQUIPPED WITH AN ISOLATING DAMPER, ON A COMMAND FROM THE BAS, THE EXHAUST DAMPER SHALL OPEN AND WHEN THE END SWITCH MAKES, THE FAN SHALL START, AND THE DAMPER STATUS SHALL BE AVAILABLE IN BAS.
 - ALARMS: MAINTENANCE: COMMAND ON-STATUS OFF
 - ENERGY: COMMAND OFF-STATUS ON
 - SCHEDULES: ALARM SETTING- (SETPPOINT AND TIME DELAY PARAMETES)



CITY OF MISSISSAGUA EQUIPMENT NAMING	LOCATION	RATING		BRAND/MODEL	WEIGHT (KG)	MAX PRESSURE (BAR)	DIMENSIONS (MM) (HxWxL)	NOTES
		MBH	KW					
BLR1	BOILER ROOM	500	147	VISSMANN VITOCROSSAL 200 C12-500	358	5.5	1640 x 750 x 992	OR APPROVED EQUIVALENT BRAND
BLR2	BOILER ROOM	500	147	VISSMANN VITOCROSSAL 200 C12-500	358	5.5	1640 x 750 x 992	OR APPROVED EQUIVALENT BRAND

AIR TERMINAL SCHEDULE						
TAG	DESCRIPTION	QTY	LOCATION	BRAND	MODEL	DIMENSIONS (LxWxH)
A	AIR INTAKE LOUVRE	1	BOILER ROOM	EH PRICE OR APPROVED EQUIVALENT BRAND	DE439	22"x22"

PUMP SCHEDULE											
CITY OF MISSISSAGUA EQUIPMENT NAMING	LOCATION	BRAND/MODEL	FLUID	DUTY POINT FLOW (GPM)	HEAD (FT)	MTR (HP)	RPM	V	AMPS	SERVING	NOTES
P1	BOILER ROOM	BELL & GOSSETT PL-100 1BL134	WATER	50	20	2	3250	115	4.8	HWT-1	OR APPROVED EQUIVALENT BRAND
P2	BOILER ROOM	BELL & GOSSETT PL-100 1BL134	WATER	40	20	2	3250	115	4.8	HWT-2	OR APPROVED EQUIVALENT BRAND
P3	BOILER ROOM	BELL & GOSSETT PL-100 1BL134	WATER	43	20	2	3250	115	4.8	SNOW MELTING	OR APPROVED EQUIVALENT BRAND
P4	BOILER ROOM	BELL & GOSSETT E90 1AAB	WATER	50	30	1	3450	575	-	HEAT PUMP	OR APPROVED EQUIVALENT BRAND
BLR1_PMP	BOILER ROOM	BELL & GOSSETT PL-130/2 1BL063	WATER	50	15	2	3200	115	4.8	VISSMANN BOILER 1	OR APPROVED EQUIVALENT BRAND
BLR2_PMP	BOILER ROOM	BELL & GOSSETT PL-130/2 1BL063	WATER	50	15	2	3200	115	4.8	VISSMANN BOILER 2	OR APPROVED EQUIVALENT BRAND
DHW_RPMP	BOILER ROOM	BELL & GOSSETT NFB-22 103252LF	WATER	7	10	-	2940	115	0.8	DHW	OR APPROVED EQUIVALENT BRAND

CITY OF MISSISSAGUA EQUIPMENT NAMING	QTY	LOCATION	BRAND	MODEL	FLUID	WEIGHT (LBS)	V
DHW_TNK1*	1	BOILER ROOM	PVI OR APPROVED EQUIVALENT BRAND	900L 400A TRBPDW	WATER	1340	120
DHW_TNK2*	1	BOILER ROOM	PVI OR APPROVED EQUIVALENT BRAND	900L 300A TRBPDW	WATER	1280	120

*PUMP AND PLATE HEAT EXCHANGER FOR EACH HOT WATER TANK SHOULD BE PROVIDED BY THE MANUFACTURER.

CITY OF MISSISSAGUA EQUIPMENT NAMING	QTY	LOCATION	BRAND	MODEL	ELECTRICAL(V/PH/Hz)	DIMENSIONS (HxWxL)	WEIGHT (LBS)
HP1	1	BOILER ROOM	NYLE OR APPROVED EQUIVALENT BRAND	C270WM	575/3/60	66 1/2 x 39 x 32 1/2	1074(DRY) . 1113(OPERATING)

CITY OF MISSISSAGUA EQUIPMENT NAMING	QTY	LOCATION	BRAND	MODEL	VOLUME (CFM)	FAN SPEED (RPM)	WEIGHT	REMARKS
EF3	1	GROUND FLOOR	PENN BARRY OR APPROVED EQUIVALENT BRAND	SOX122 - 0541GP	460	1725	75	VIBRATION ISOLATION HANGERS, SPEED CONTROL, CONNECT TO BAS

CITY OF MISSISSAGUA EQUIPMENT NAMING	QTY	LOCATION	BRAND	MODEL	STORAGE CAPACITY LTRS(GALLONS)	WEIGHT (KG)
EXPTNK1	1	BOILER ROOM	BELL & GOSSETT OR APPROVED EQUIVALENT BRAND	B200	200 (53)	95
EXPTNK2	1	BOILER ROOM	BELL & GOSSETT OR APPROVED EQUIVALENT BRAND	PTA-30V	38 (10)	23
EXPTNK3	1	BOILER ROOM	BELL & GOSSETT OR APPROVED EQUIVALENT BRAND	PTA-30V	38 (10)	23
EXPTNK4	1	BOILER ROOM	BELL & GOSSETT OR APPROVED EQUIVALENT BRAND	D-15	24 (6.3)	19

UNIT HEATER SCHEDULE													
No.	CITY OF MISSISSAGUA EQUIPMENT NAMING	MAKE	MODEL	TYPE	LOCATION	OUTPUT MBH	FLOW (GPM)	AIR CFM	RPM	OVERALL DIMENSION (WxHxD-INCH)	V/PH/CYC	WEIGHT (LB)	AMPS (A)
UH1	UH1	SIGMA OR APPROVED EQUIVALENT	040H	CEILING MOUNTED	STORAGE ROOM	24.7	2.55	840	1050	22x13.5x15.5	120/1/60	40	1.35
UH2	UH2	SIGMA OR APPROVED EQUIVALENT	040H	CEILING MOUNTED	REFRIGERATION ROOM	24.7	2.55	840	1050	22x13.5x15.5	120/1/60	40	1.35
UH3	UH3	SIGMA OR APPROVED EQUIVALENT	062H	CEILING MOUNTED	BOILER ROOM	38.7	3.99	970	1150	31.5x19.5x19.5	120/1/60	71	0.68
UH4	UH4	SIGMA OR APPROVED EQUIVALENT	062H	CEILING MOUNTED	ELECTRICAL ROOM	38.7	3.99	970	1150	31.5x19.5x19.5	120/1/60	71	0.68

CITY OF MISSISSAGUA EQUIPMENT NAMING	QTY	LOCATION	BRAND	MODEL	FLUID	FLOW (GPM)	DESIGN PRESSURE (PSI)
HX3	1	REFRIGERATION ROOM	BELL & GOSSETT OR APPROVED EQUIVALENT BRAND	QWUS-648-23	WATER	50	150

PLUMBING FIXTURES SCHEDULE							
TAG	FIXTURE TYPE	LOCATION	PACKAGE	SUPPLIER	SPECIFICATIONS	COLOUR/PART NUMBER	NOTES
FCT-1	FAUCET	KITCHEN	ALL	DELTA	CHROME FINISH	9159-DST	POLISHED CHROME
SNK-1	UNDER MOUNT DOUBLE BOWL SINK	KITCHEN	-	FRANKE	TYPE 304 (CNS 18/10) STAINLESS STEEL.	-	GAUGE 18. CERTIFICATION CUPC. TYPE OF MATERIAL TYPE 304. MATERIAL CODE CNS 18/10. SURFACE FINISH #4 SATIN. NUMBER OF BOWLS 2. FAUCET LEDGE POSITION NONE. WASTE LOCATION CENTER BACK. WASTE SIZE 3 1/2" (89MM). TAILPIECE DIAMETER 1 1/2" (38MM).

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0	2024-OCT-22	ISSUED FOR 50% REVIEW

Key Plan

True North

P.N. = PROJECT NORTH
T.N. = TRUE NORTH

Engineer Logo

Spectra Engineering
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TEL: (416) 478-5158
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Client

MISSISSAUGA

Drawing Overall Scale

AS SHOWN

Project Name & Address

TOMKEN TWIN ARENA
MECHANICAL AND VARIOUS BUILDING LIFECYCLE RENEWALS
4495 TOMKEN RD, MISSISSAUGA, ON L4W 1J9

Drawing Title

MECHANICAL SERVICES EQUIPMENT SCHEDULE

DATE: 22-OCT-2024

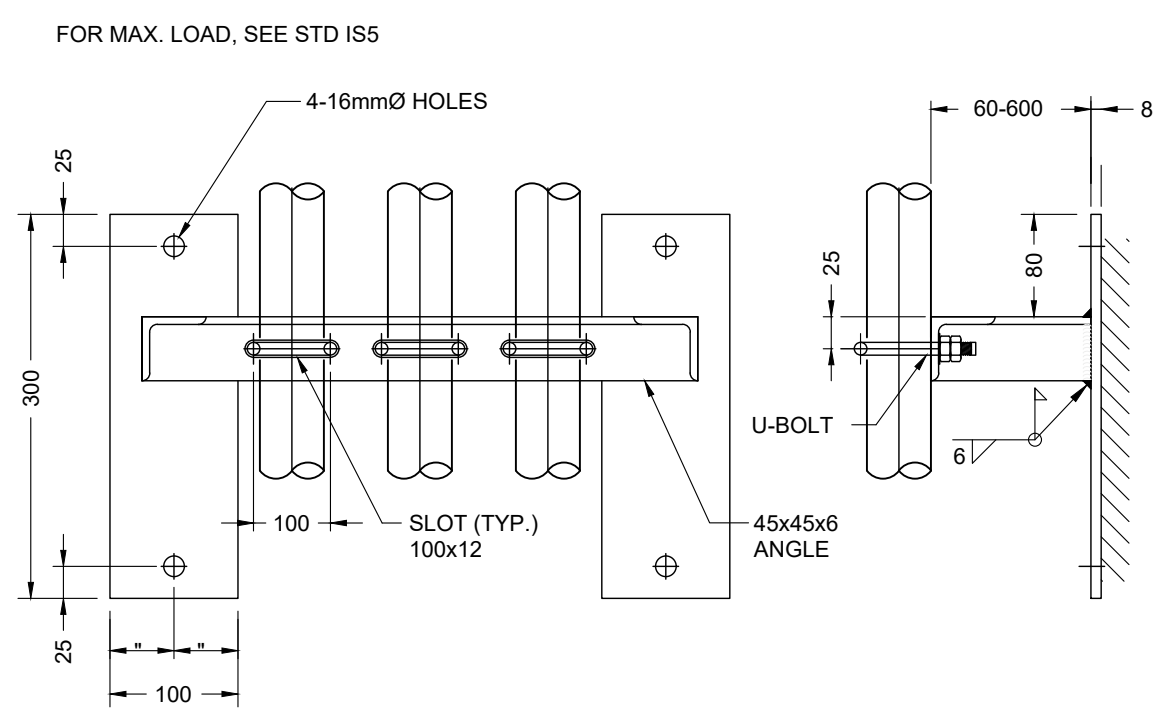
DESIGNED BY: A.M

DRAWN BY: A.M

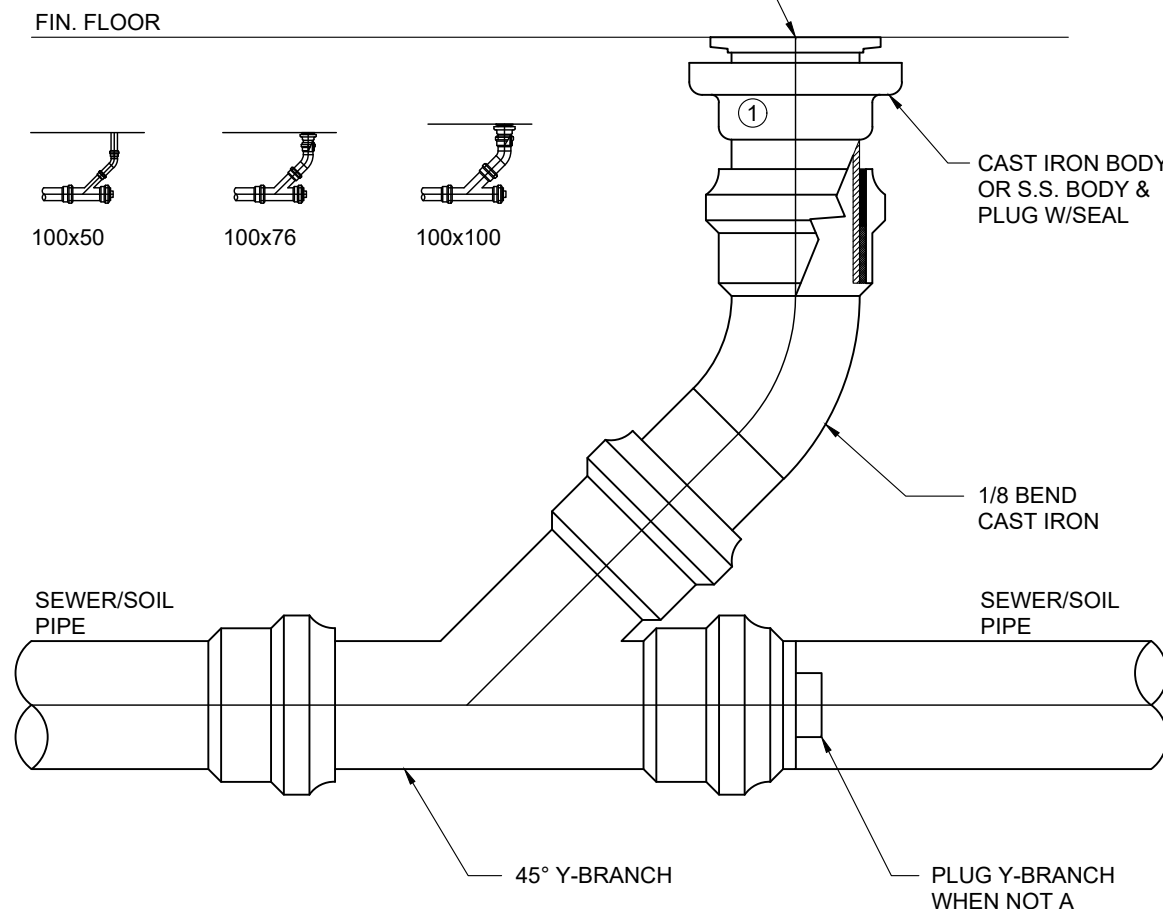
APPROVED BY: M.A.

PROJECT NO.: 1024104

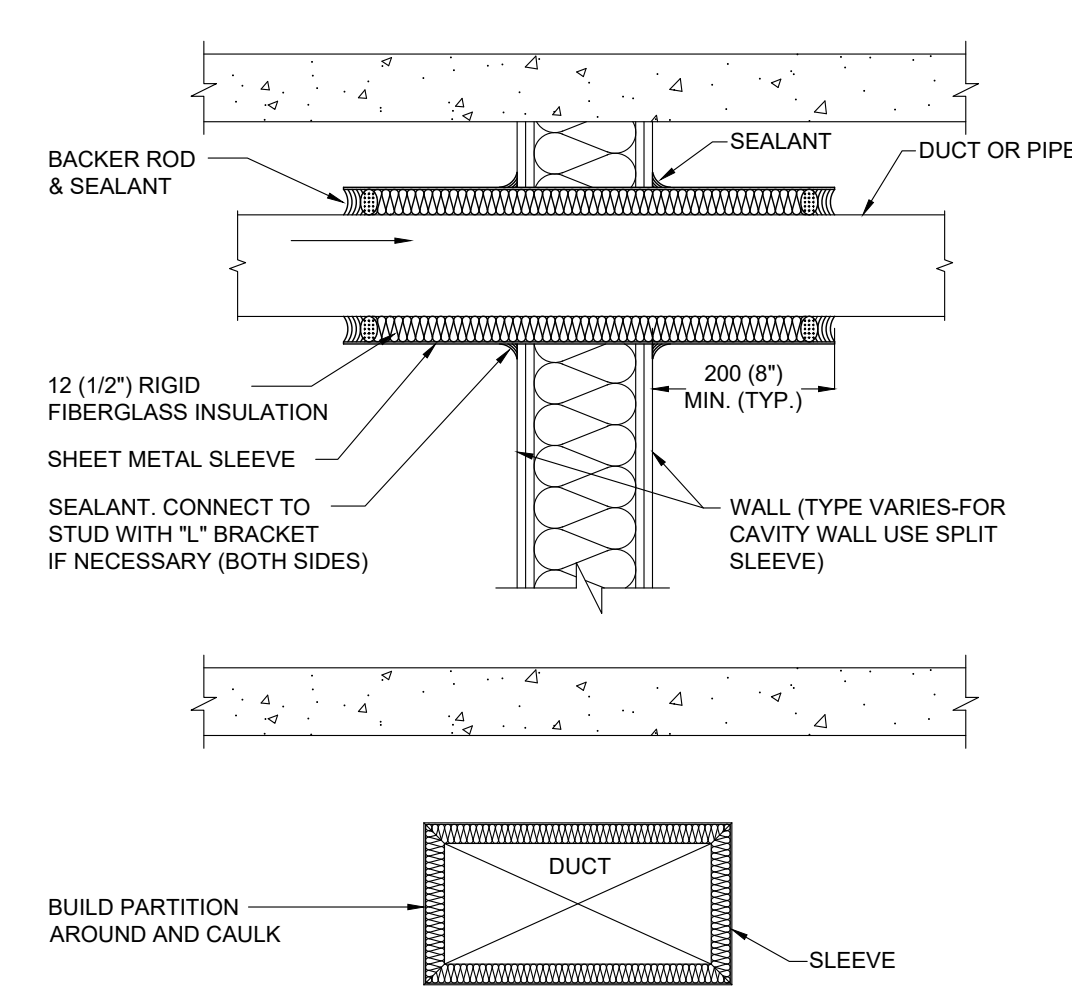
Engineer / Architect Stamp



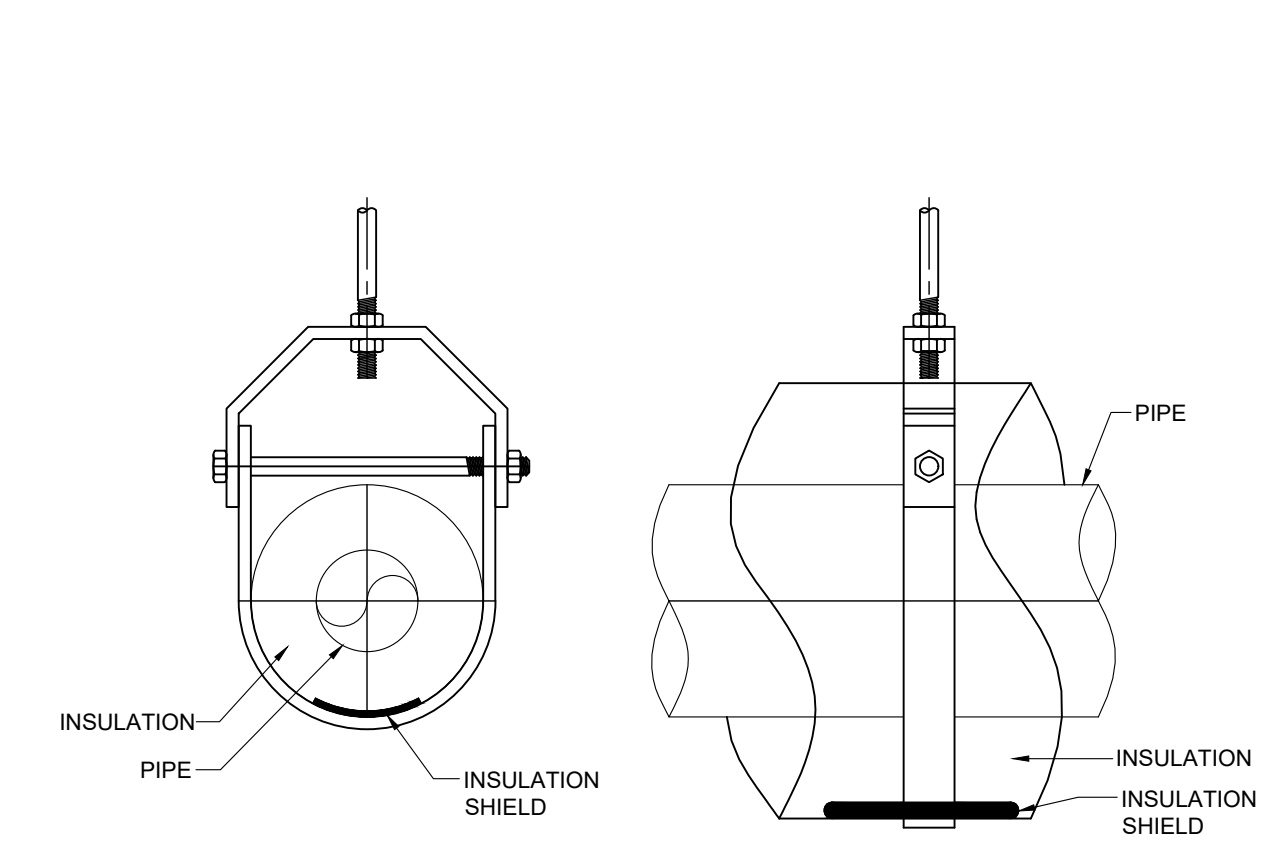
1 WALL MOUNTED MULTIPLE PIPE SUPPORT N.T.S



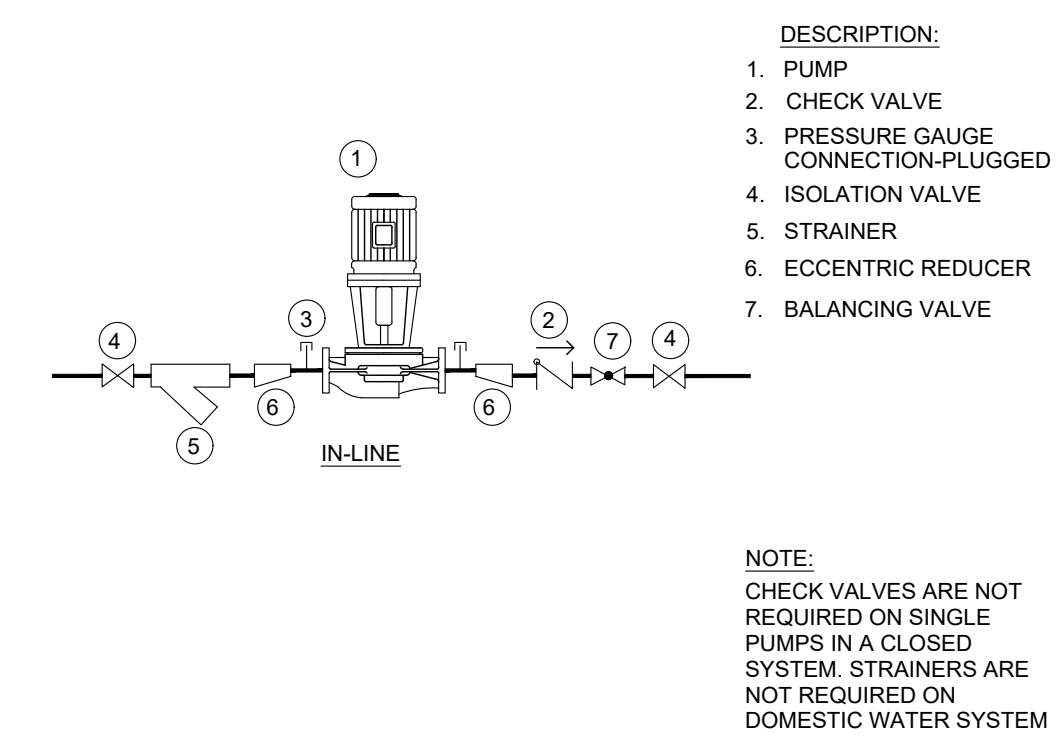
2 FLOOR CLEAN-OUT DETAIL N.T.S



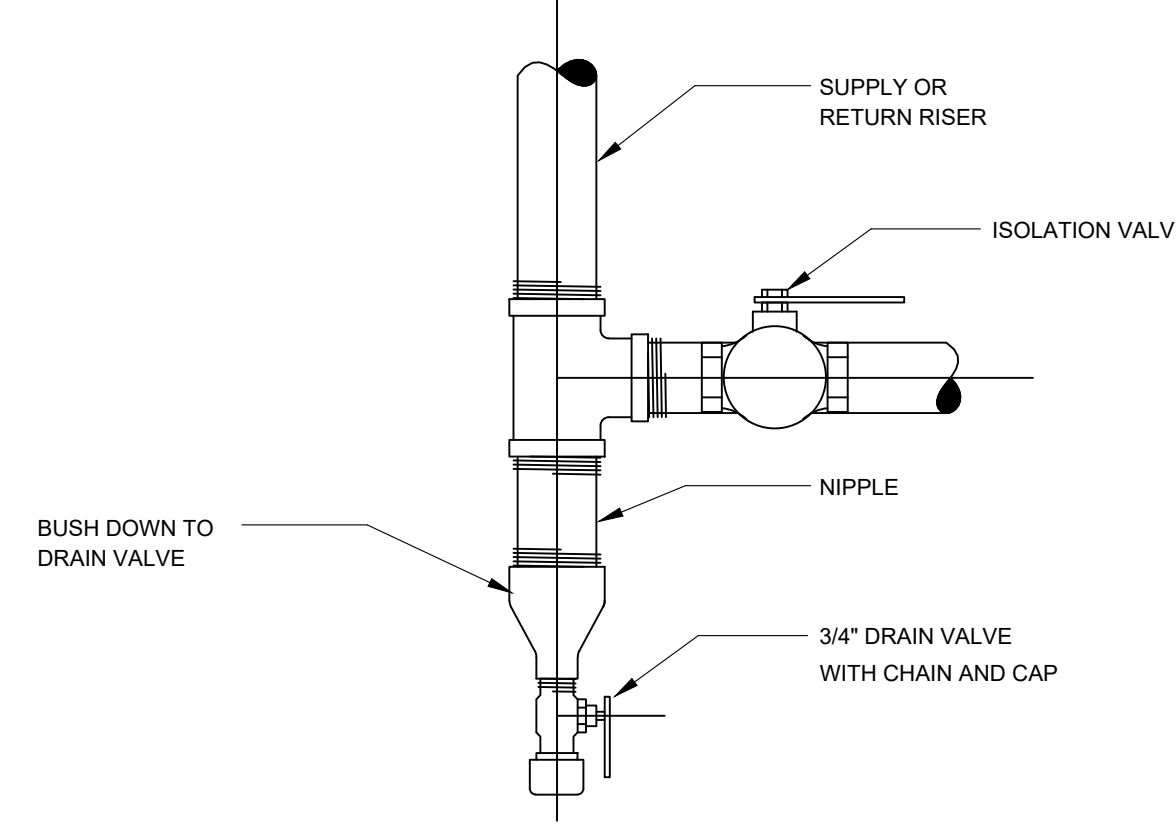
3 CONCEPT FOR SEALING PIPE PENETRATION THROUGH WALLS N.T.S



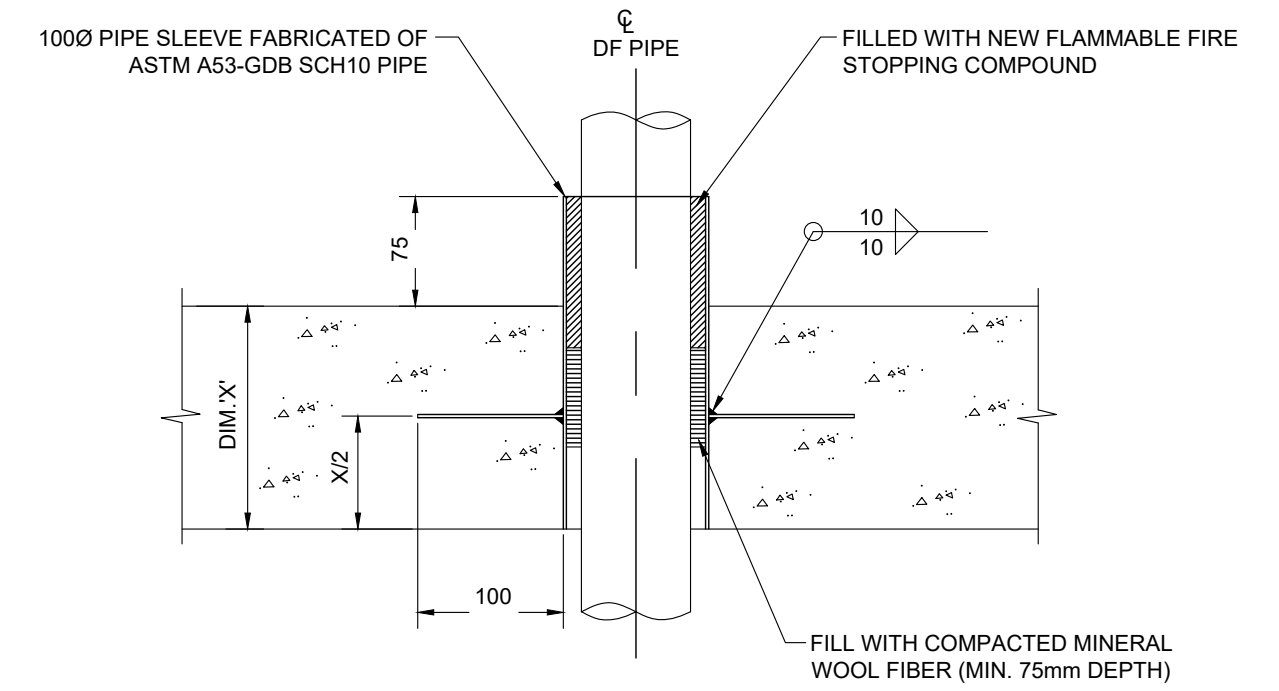
4 PIPE HANGER DETAIL N.T.S



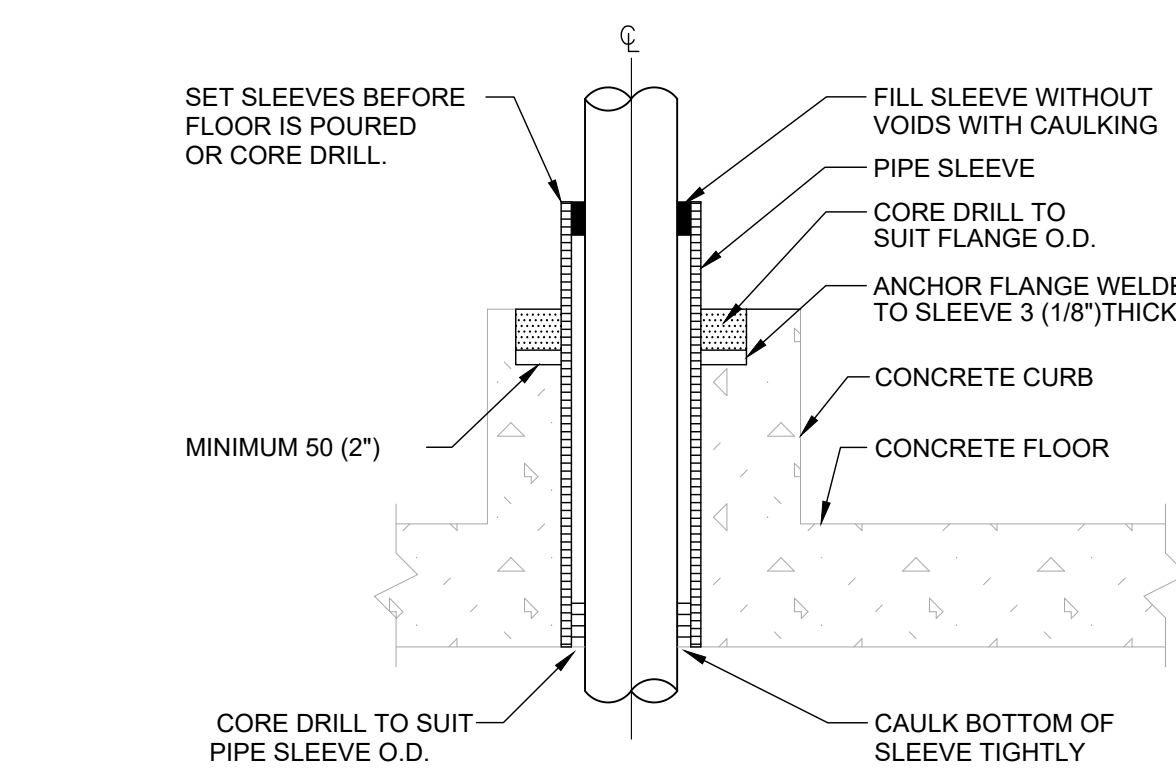
5 PUMP PIPING CONNECTION N.T.S



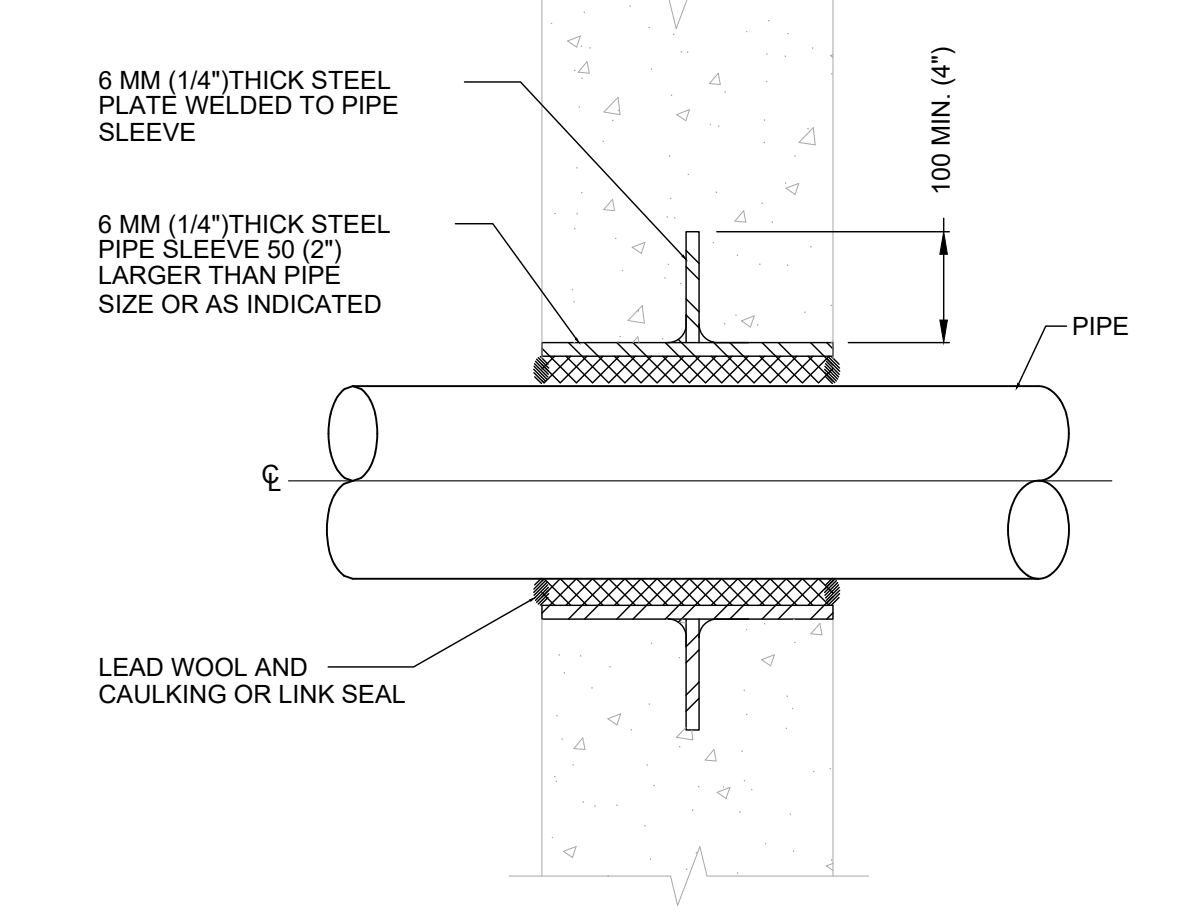
7 WATER RISER DRAIN N.T.S



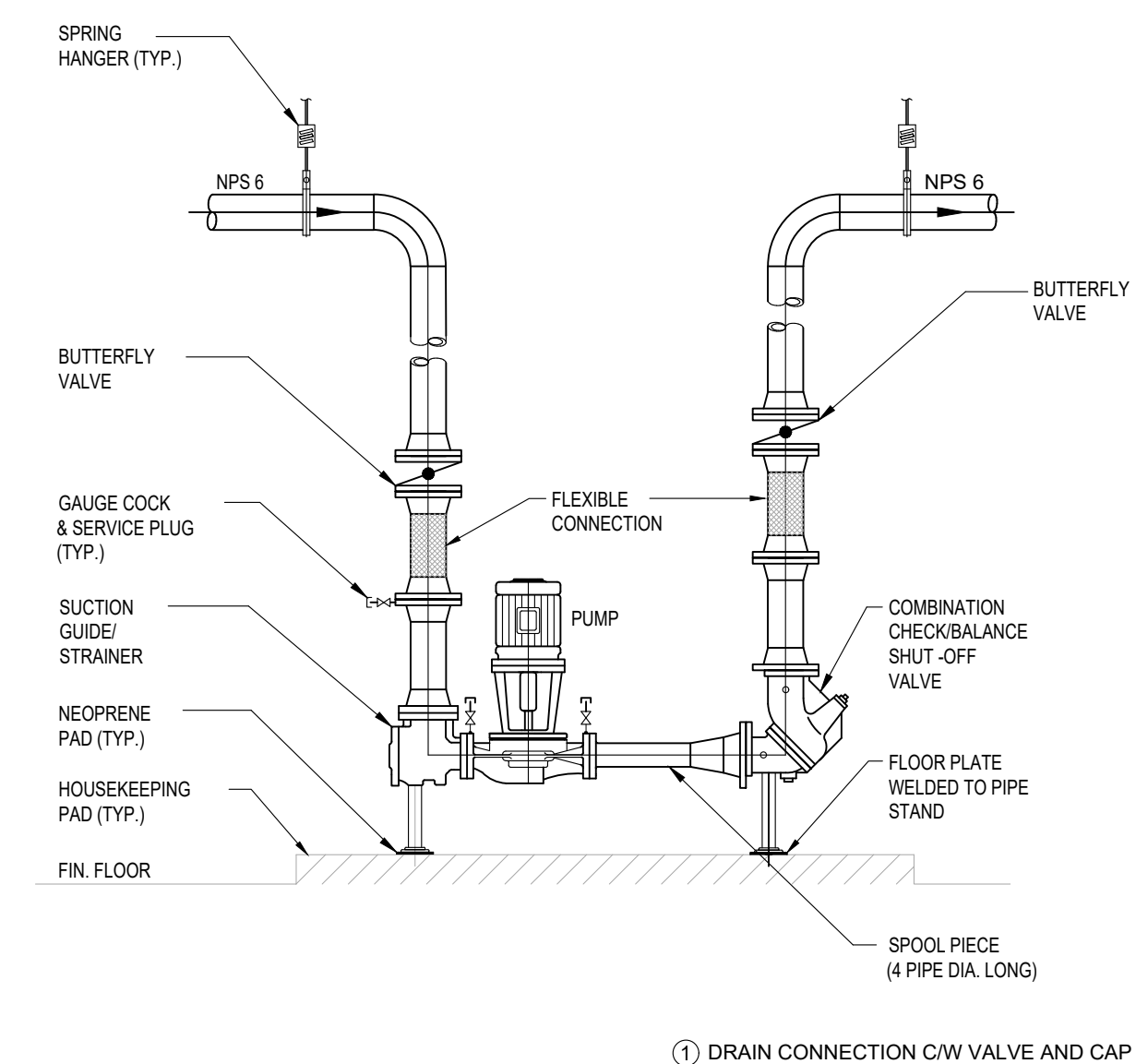
8 WEATHER PROOF OUTDOOR PIPE PENETRATION N.T.S



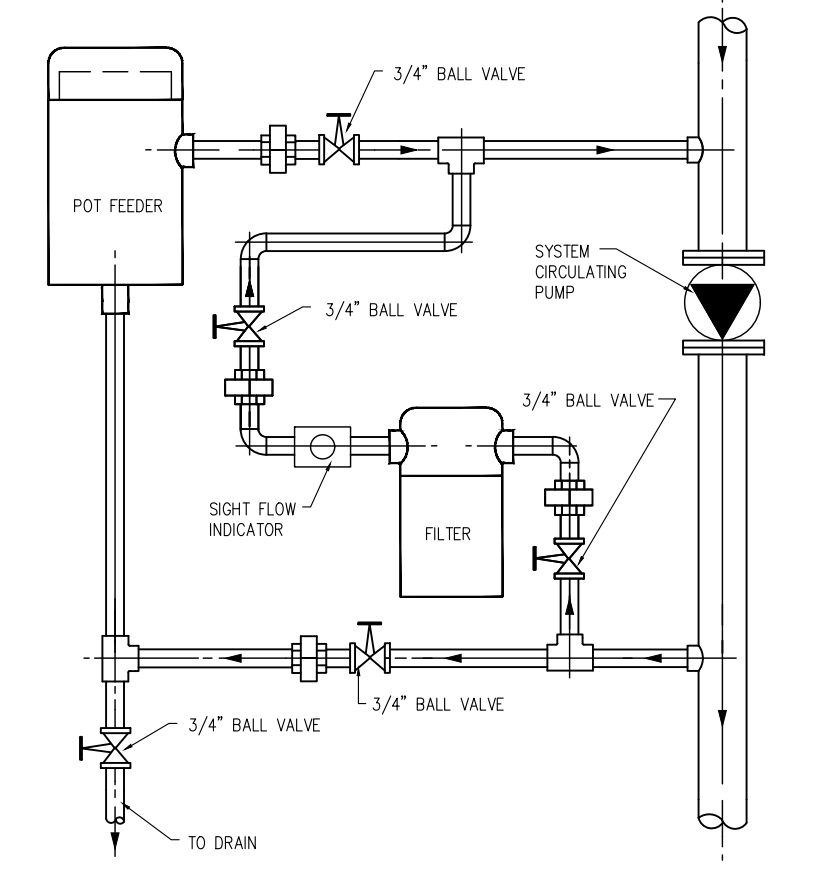
9 WATERPROOF PIPE SLEEVE THROUGH CONCRETE FLOOR N.T.S



10 WATERPROOF PIPE SLEEVE THROUGH WALL N.T.S



11 VERTICAL IN-LINE PUMP PIPING DETAIL N.T.S



12 BY-PASS FEEDER INSTALLATION N.T.S

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 TEL: (416) 478-5158 FAX: (416) 478-5917

Client: **MISSISSAUGA**

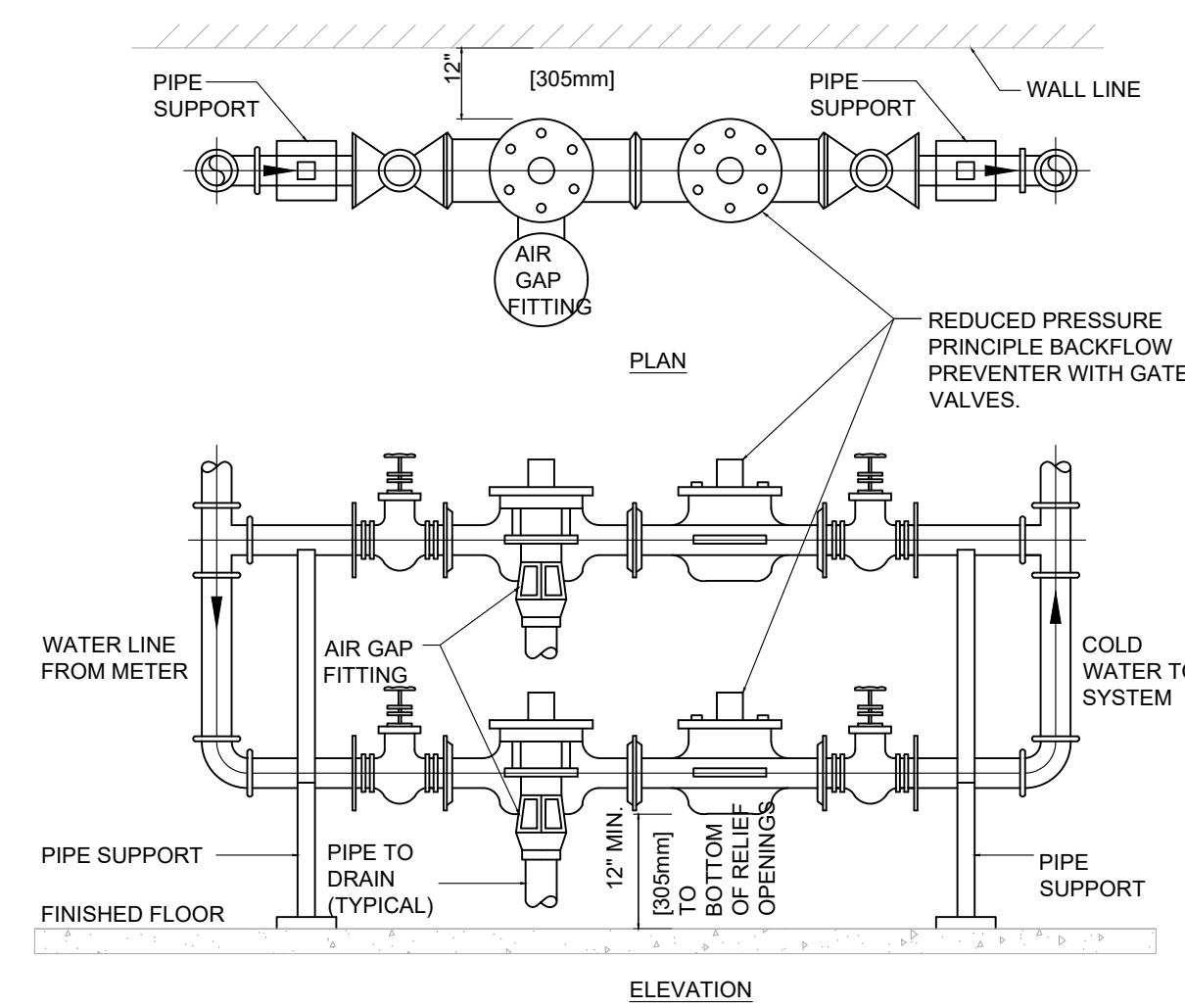
Drawing Overall Scale: AS SHOWN

Project Name & Address: **TOMKEN TWIN ARENA**
 MECHANICAL AND VARIOUS BUILDING LIFECYCLE RENEWALS
 4495 TOMKEN RD, MISSISSAUGA, ON L4W 1J9

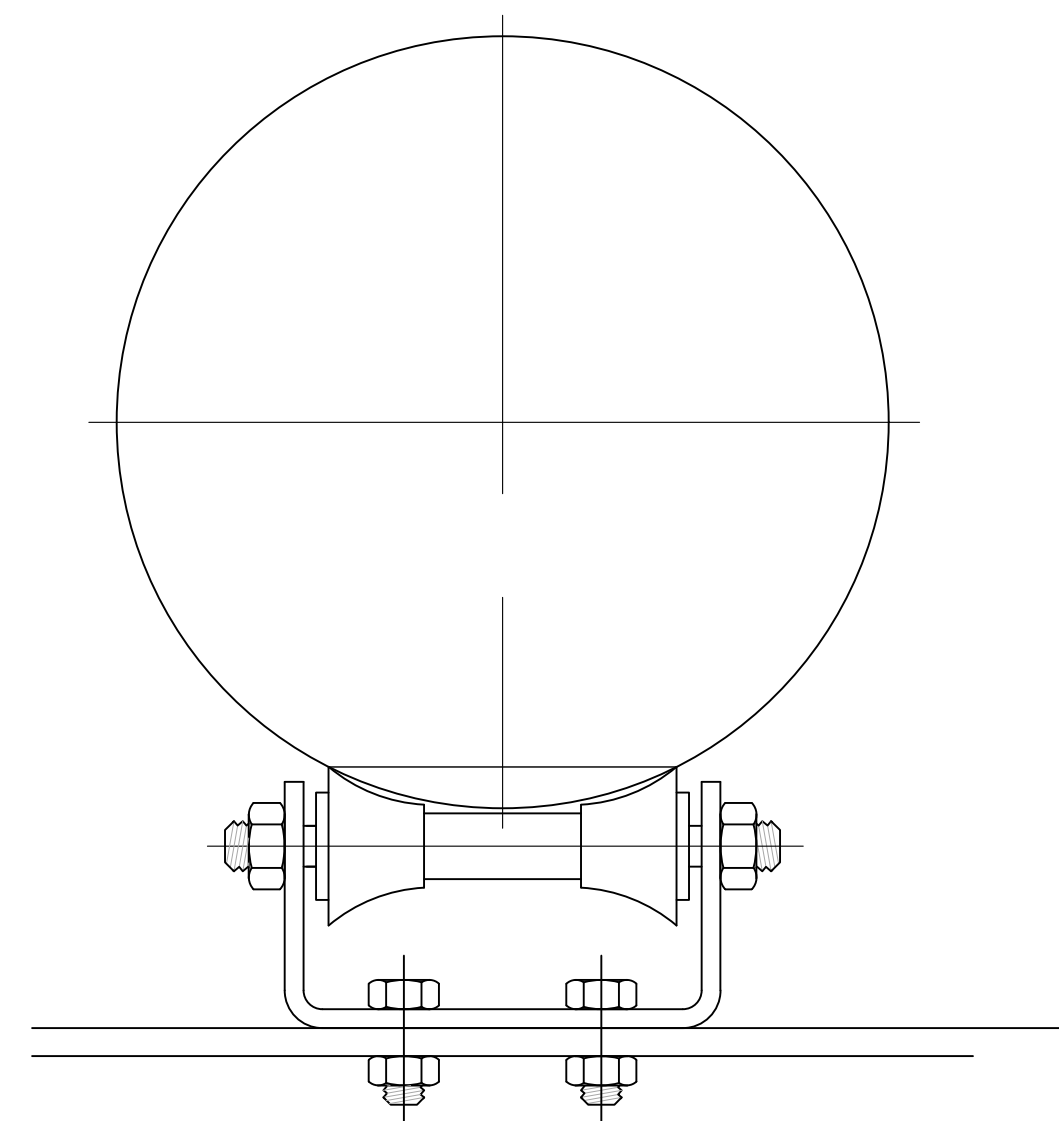
Drawing Title: **MECHANICAL SERVICES STANDARD DETAILS 1**

DATE: 22-OCT-2024
 DESIGNED BY: A.M.
 DRAWN BY: A.M.
 APPROVED BY: M.A.
 PROJECT NO.: 1024104

Engineer / Architect Stamp: **MAKHANBAZ**
 LICENSED PROFESSIONAL ENGINEER
 100088319
 2024-DEC-17
 PROVINCE OF ONTARIO

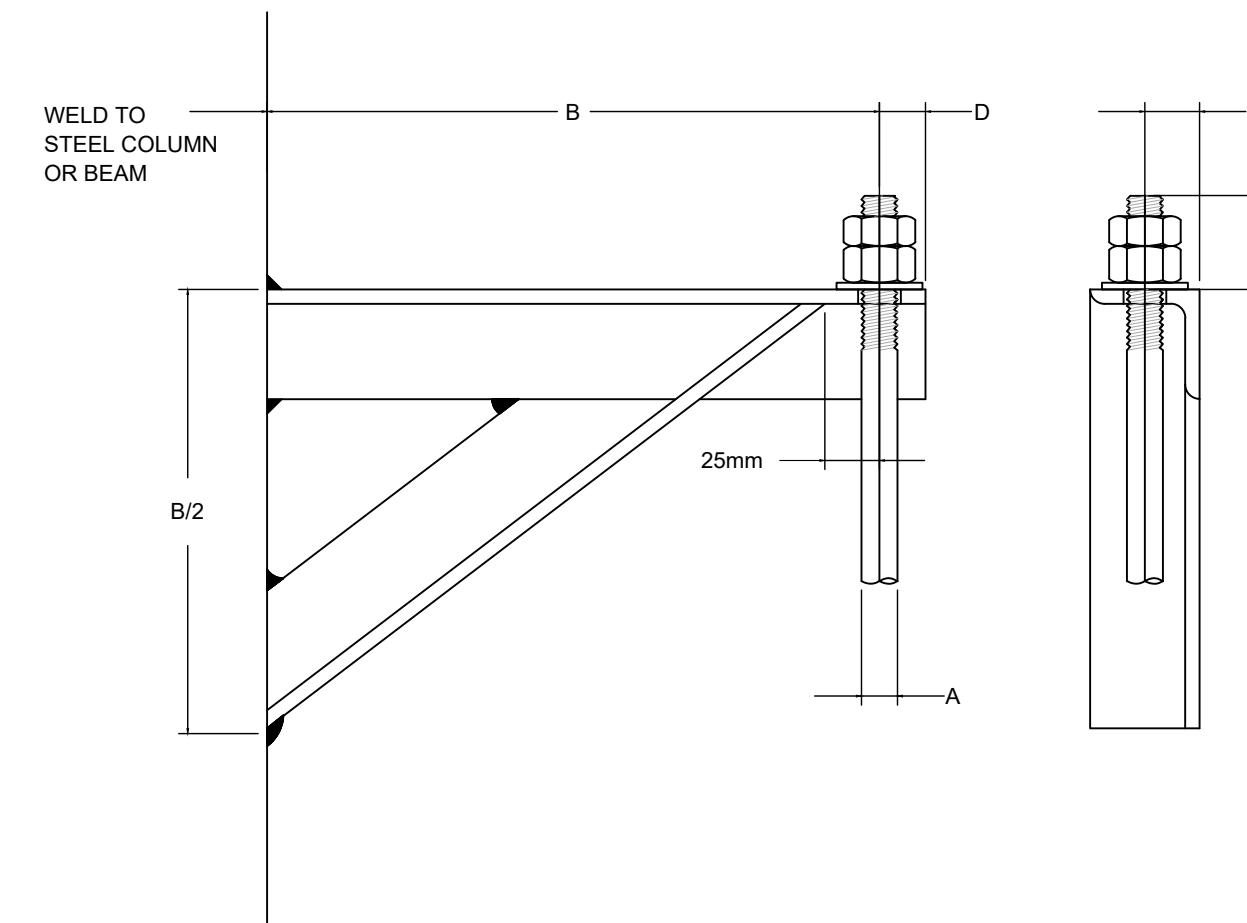


1 REDUCED PRESSURE BACKFLOW PREVENTER WITH GATE VALVE
N.T.S



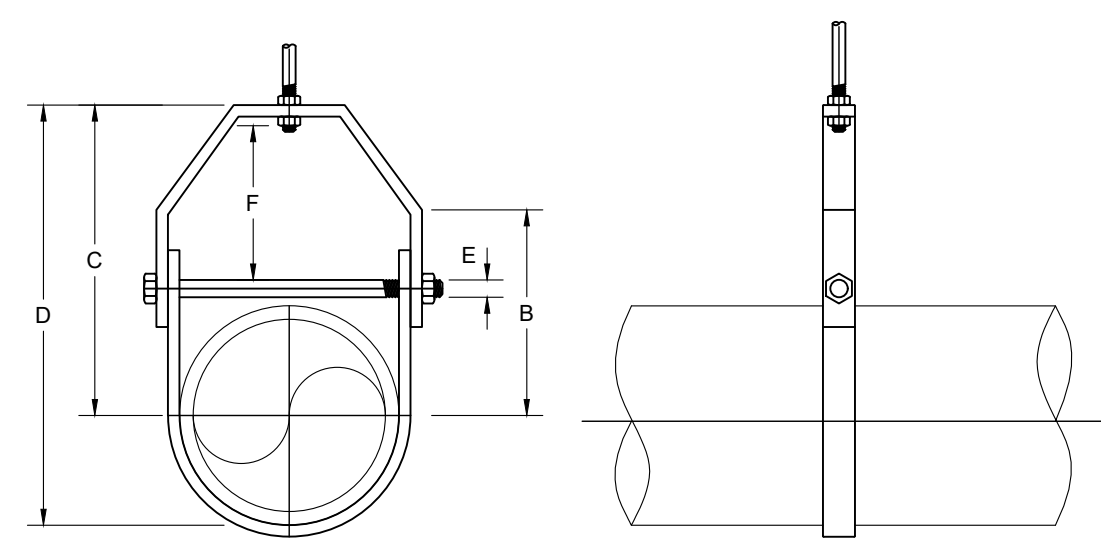
HANGER SIZE	ENGINEERING DATA		DIMENSION DATA										MATERIAL	APPR. WEIGHT PER 100
	RECOM. MAX. LOAD LBS	FROM PIPE CENTRELINE TO STEAM TO ROLL CENTRE	A	B	C	D	F	G	H	J	K	T		
1 1/2"	390	3 1/4"	1 1/2"	1 3/4"	3 7/16"	2 3/4"	1 7/8"	1/2"	1 3/8"	9/16"	-	1/4"x2"	215	
2"		3 1/2"	1 3/4"											
2 1/2"		3 7/8"	2 1/8"											
3"		4 1/8"	2 3/8"											
3 1/2"		4 3/8"	2 5/8"											
4"	4 13/16"	2 3/4"	2 1/16"	4 11/16"	3 3/4"	2 1/8"	1/2"	2"	1 1/16"	-	3/8"x2 1/2"	410		
5"	5 7/16"	3 3/8"												
6"	6 1/16"	4"												

2 GRINNEL PIPE ROLLER CHAIR
N.T.S



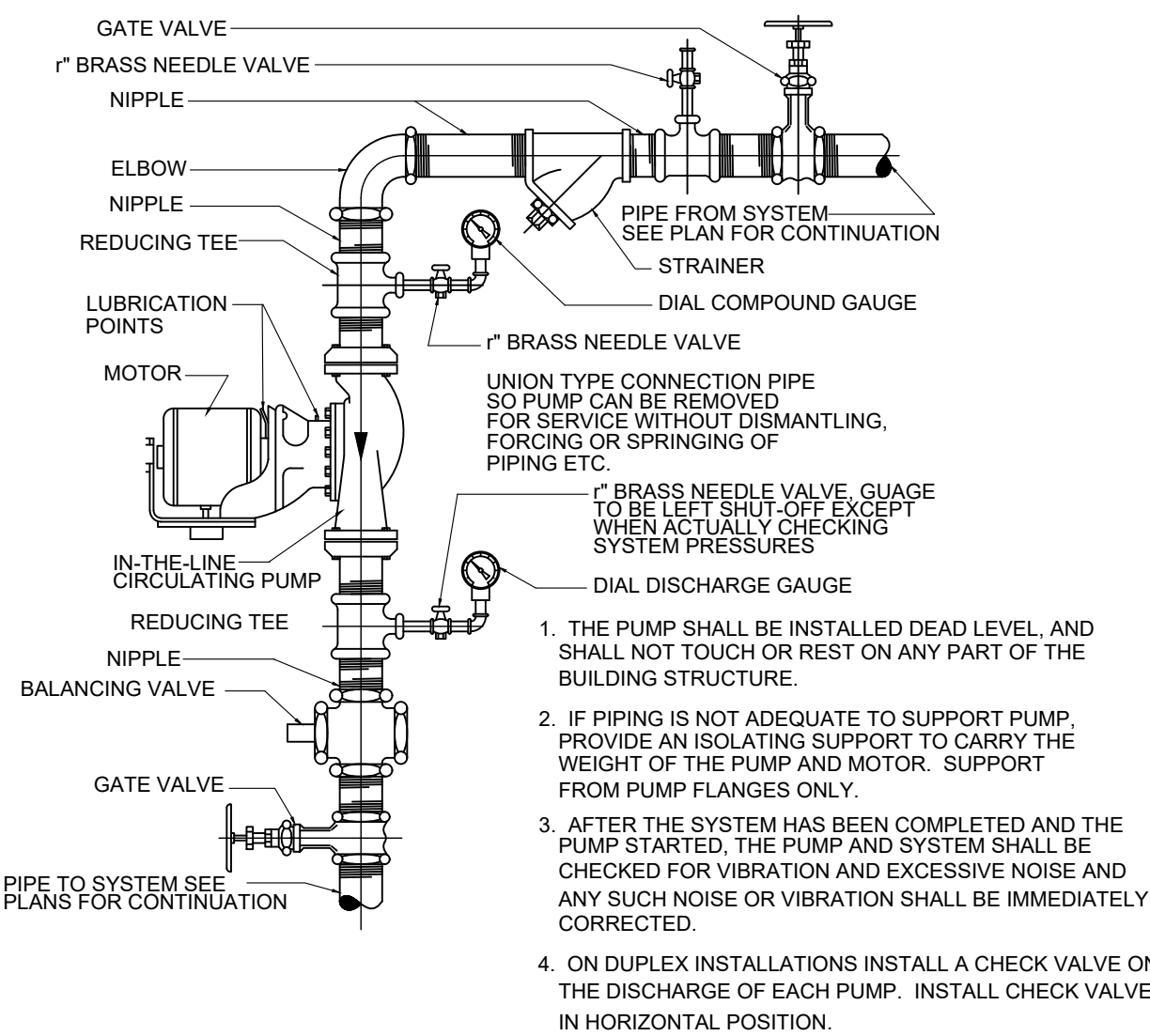
BRACKET No.	ECOM. MAX. LOAD LB	MAX. ROD SIZE A	B		HANGER ROD ADDITIVE C	D	E	SIZE ANGLES
			MIN.	MAX.				
1	1	1	1	1	1	1	1	50x50x6
2	2	2	2	2	2	2	2	65x65x6
3	3	3	3	3	3	3	3	76x76x10

3 WELDED ANGLE BRACKET
N.T.S

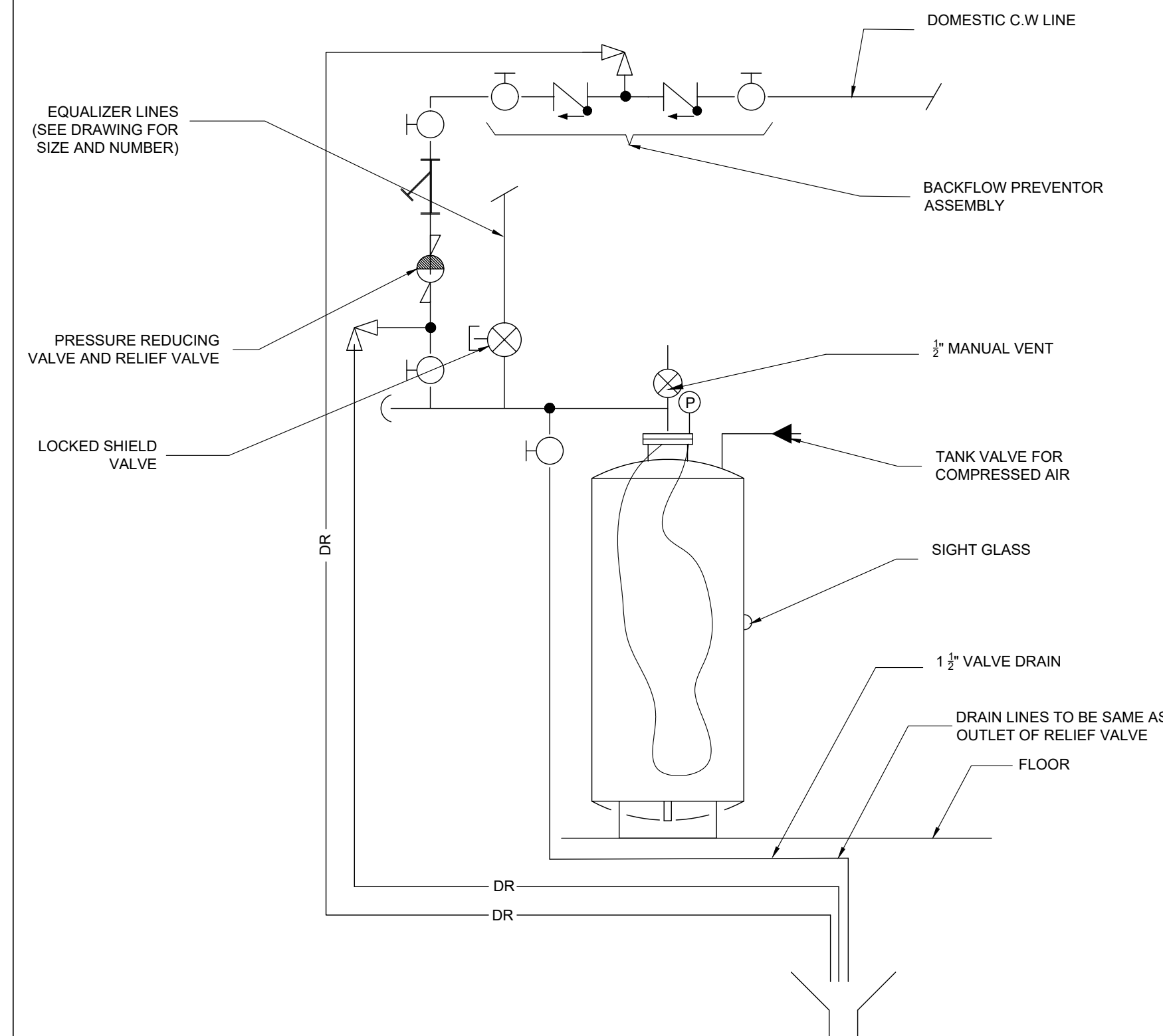


PIPE SIZE	ENGINEERING DATA		DIMENSION DATA					MATERIAL	
	REC HGR SPACING	HNAGER ROD DIA(A)	ROD TAKE-OUT(B)	C	D	E	F	UPPER	LOWER
1/2"	5'-0"	3/8"	1 1/4"	1 3/4"	2 1/4"	1/4"	1 1/4"	16GAx7/8	16ga7/8
3/4"	6'-0"	3/8"	1 7/8"	2 3/4"	3 5/16"	5/16"	7/8"	1/8 x 1	1/8 x 1
1"	7'-0"	3/8"	1 1/8"	1 13/16"	2 5/16"	5/16"	7/8"	1/8 x 1 1/8	1/8 x 1 1/8
1 1/4"	8'-0"	3/8"	1 1/8"	1 13/16"	2 5/16"	3/8"	3/4"	3/16 x 1	3/16 x 1
1 1/2"	9'-0"	3/8"	1 1/8"	1 13/16"	2 5/16"	3/8"	3/4"	3/16 x 1	3/16 x 1
2"	10'-0"	3/8"	1 1/8"	1 13/16"	2 5/16"	3/8"	1 1/4"	3/16 x 1	3/16 x 1
2 1/2"	11'-0"	1/2"	1 1/8"	1 13/16"	2 5/16"	3/8"	1 1/4"	3/16 x 1 1/4	3/16 x 1 1/4
3"	12'-0"	1/2"	1 1/8"	1 13/16"	2 5/16"	7/16"	1 5/8"	3/16 x 1 1/4	3/16 x 1 1/2
4"	14'-0"	5/8"	1 1/8"	1 13/16"	2 5/16"	1/2"	1 1/2"	3/16 x 1 1/2	3/16 x 1 1/2
6"	17'-0"	3/4"	1 1/8"	1 13/16"	2 5/16"	1/2"	2"	5/16 x 1 1/2	3/16 x 1 1/2
8"	19'-0"	3/4"	1 1/8"	1 13/16"	2 5/16"	5/8"	2 7/8"	3/8 x 1 1/2	1/4 x 1 1/2
10"	22'-0"	7/8"	1 1/8"	1 13/16"	2 5/16"	3/4"	2 3/4"	3/8 x 2	1/4 x 2
12"	23'-0"	7/8"	1 1/8"	1 13/16"	2 5/16"	3/4"	2 7/8"	1/2 x 2	2/3 x 2

4 STANDARD CLEVIS HANGER
N.T.S

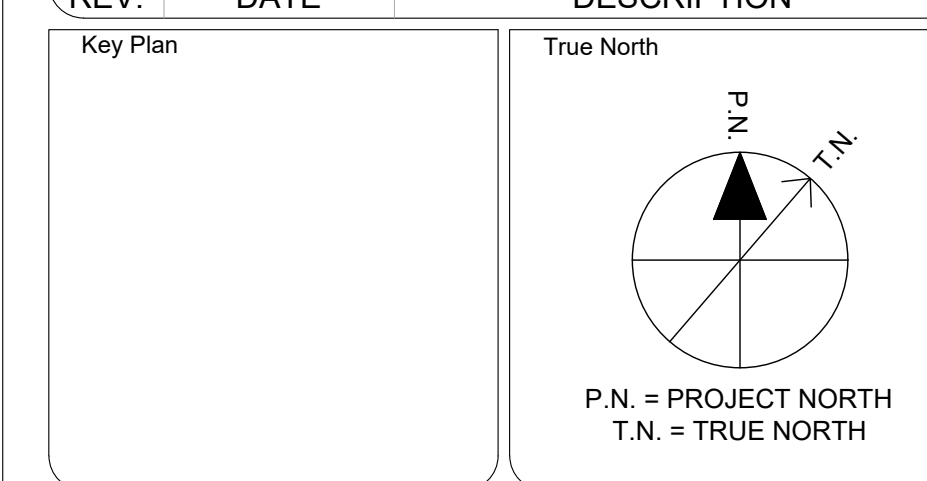


5 IN LINE CIRCULATION PUMP(HEATING ONLY)
N.T.S



6 PIPING CONNECTION TO CLOSED EXPANSION TANKS
N.T.S

REV.	DATE	DESCRIPTION
3	2024-DEC-11	ISSUED FOR PERMIT AND TENDER
2	2024-DEC-04	ISSUED FOR 100% REVIEW
1	2024-NOV-15	ISSUED FOR 90% REVIEW
0	2024-OCT-22	ISSUED FOR 50% REVIEW



Engineer Logo
Spectra Engineering
 250 SHEPPARD AVE EAST, SUITE 606, TORONTO, ONTARIO, M2N 6M9
 TEL: (416) 478-5156 FAX: (416) 478-5917

Client
MISSISSAUGA

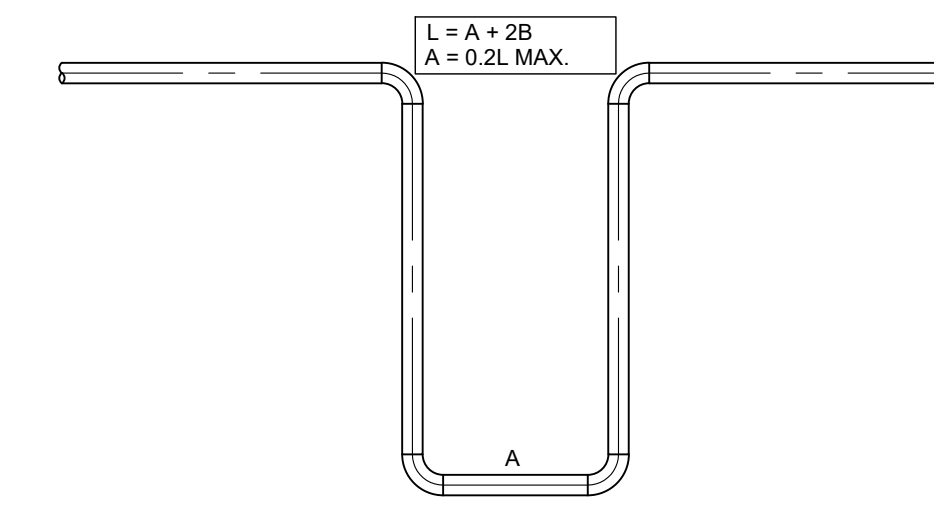
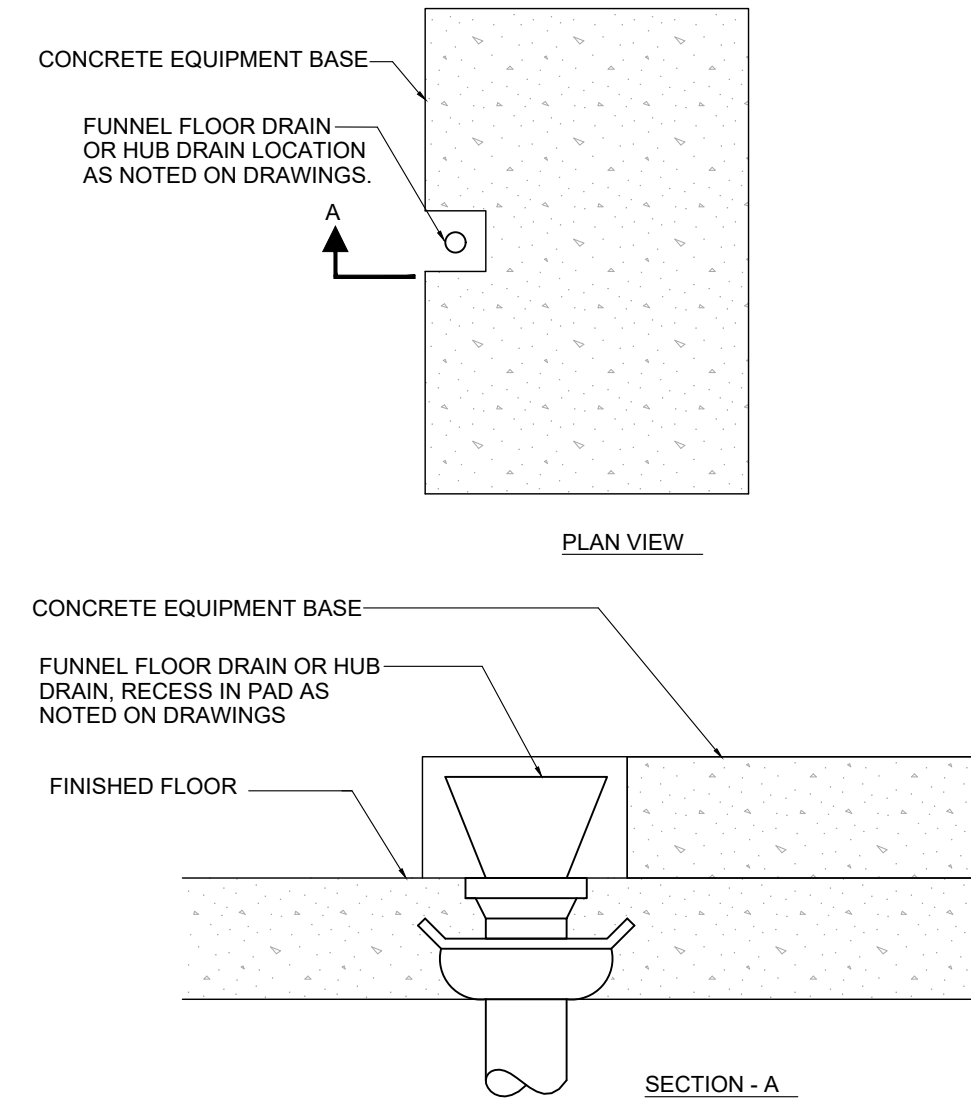
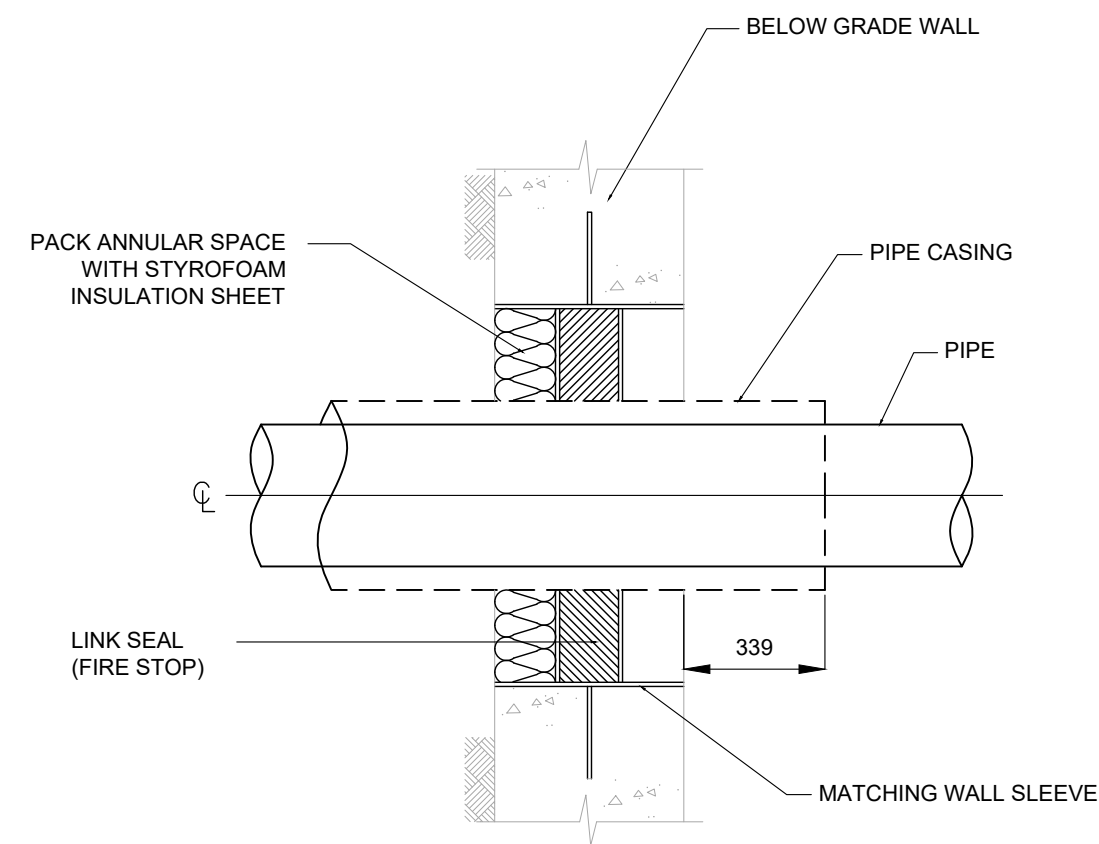
Drawing Overall Scale
 AS SHOWN

Project Name & Address
TOMKEN TWIN ARENA
 MECHANICAL AND VARIOUS BUILDING LIFECYCLE RENEWALS
 4495 TOMKEN RD, MISSISSAUGA, ON L4W 1J9

Drawing Title
MECHANICAL SERVICES
 STANDARD DETAILS 2

DATE: 22-OCT-2024
 DESIGNED BY: A.M.
 DRAWN BY: A.M.
 APPROVED BY: M.A.
 PROJECT NO.: 1024104

Engineer / Architect Stamp

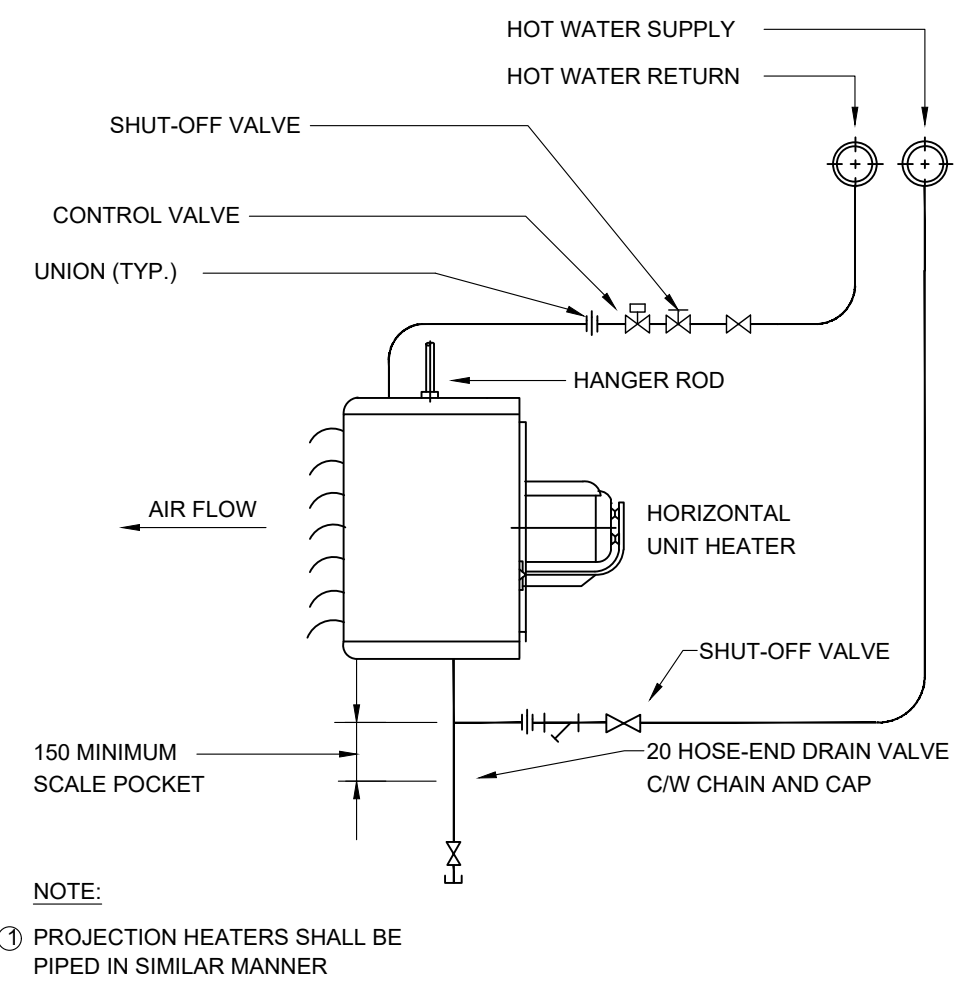


EXPANSION LOOP LENGTH (L) 30m (100FT.)			
PIPE SIZE	COPPER	IRON	PLASTIC
TEMP.	4.5°C-60°C (40°-140°F)	4.5°C-93.3°C (40°-200°F)	4.5°C-60/135°C (40°-275°F)
13mm (1/2")	1676 (5'-6")	1981 (6'-6")	2286 (7'-6")
19 (3/4")	1981 (6'-6")	2134 (7'-0")	2590 (8'-6")
25 (1")	2134 (7'-0")	2438 (8'-0")	2896 (9'-6")
32 (1 1/4")	2438 (8'-0")	2743 (9'-0")	3353 (11'-0")
38 (1 1/2")	2590 (8'-6")	3048 (10'-0")	3505 (11'-6")
50 (2")	2896 (9'-6")	3353 (11'-0")	3810 (12'-6")
65 (2 1/2")	3353 (11'-0")	3658 (12'-0")	4267 (14'-0")
75 (3")	3658 (12'-0")	3962 (13'-0")	4724 (15'-6")
100 (4")	4115 (13'-6")	4470 (14'-8")	5334 (17'-6")
150 (6")	5029 (16'-6")	5639 (18'-6")	6553 (21'-6")

1 BELOW-GRADE WALL PENETRATION
N.T.S.

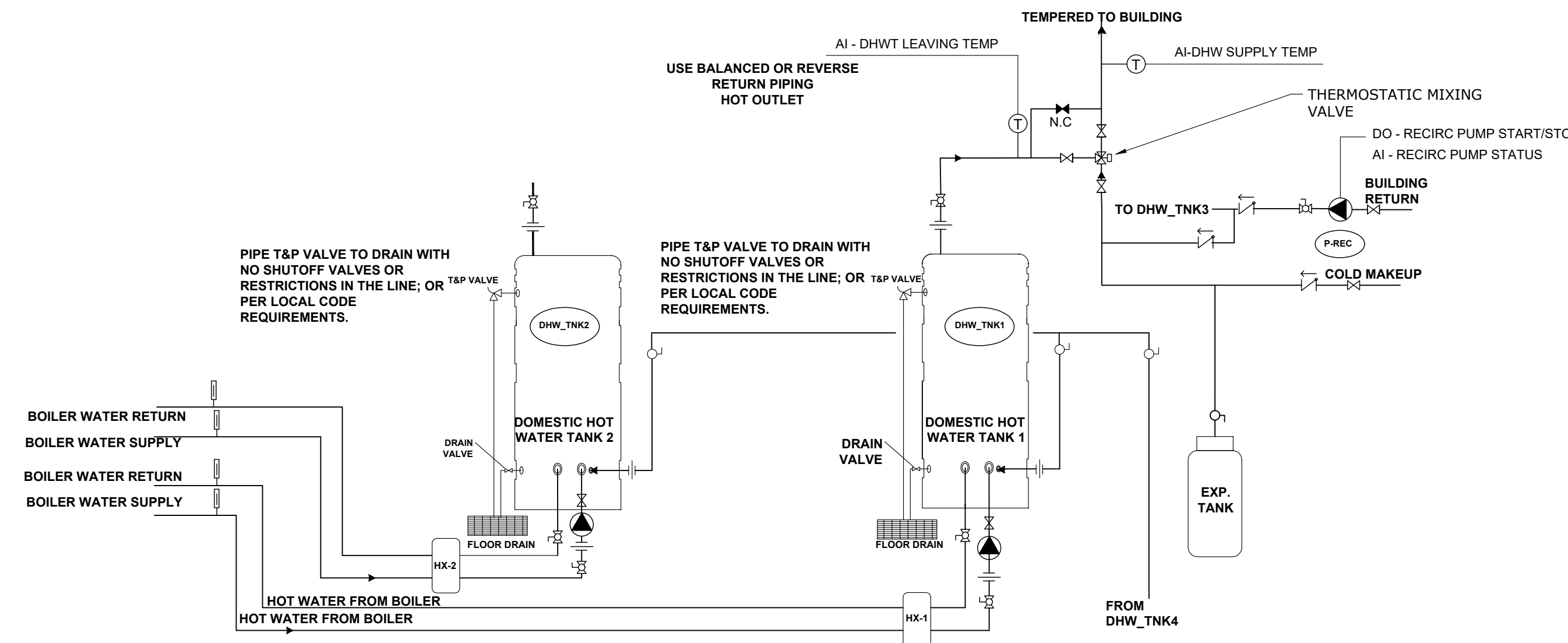
2 CONCRETE EQPT. BASE FUNNEL FLOOR HUB DRAIN
N.T.S.

3 PIPE EXPANSION LOOP
N.T.S.



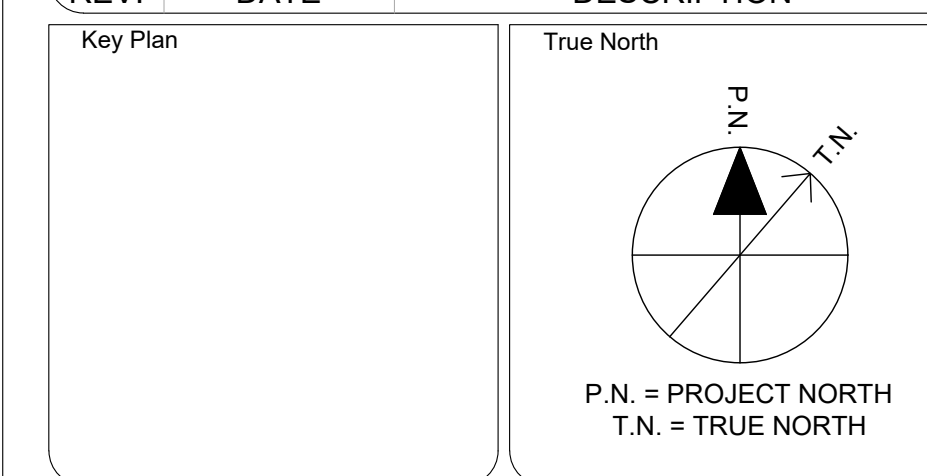
NOTE:
① PROJECTION HEATERS SHALL BE PIPED IN SIMILAR MANNER

4 TYPICAL UNIT HEATER WATER PIPING CONNECTIONS
N.T.S.



5 DOMESTIC WATER HEATER PIPING CONNECTIONS
N.T.S.

REV.	DATE	DESCRIPTION
3	2024-DEC-11	ISSUED FOR PERMIT AND TENDER
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Engineer Logo

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Client

 MISSISSAUGA

Drawing Overall Scale
 AS SHOWN

Project Name & Address
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 4495 TOMKEN RD, MISSISSAUGA, ON L4W 1J9

Drawing Title
MECHANICAL SERVICES
 STANDARD DETAILS 3

DATE: 22-OCT-2024
 DESIGNED BY: A.M.
 DRAWN BY: A.M.
 APPROVED BY: M.A.
 PROJECT NO.: 1024104

Engineer / Architect Stamp

GENERAL NOTES

- THESE GENERAL NOTES APPLY TO ALL DRAWINGS.
- WHERE USED, INDIVIDUAL WORDINGS SUCH AS 'SUPPLY', 'INSTALL', OR 'PROVIDE' SHALL MEAN TO INCLUDE ALL LABOR, MATERIAL AND SERVICES NECESSARY TO SUPPLY, INSTALL AND CONNECT THE PRODUCTS AND SERVICES SPECIFIED, UNLESS NOTED OTHERWISE.
- IT IS MANDATORY FOR THE ELECTRICAL CONTRACTOR TO VISIT THE SITE PRIOR TO BIDDING AND REVIEW EXISTING CONDITIONS AND DEMOLITION SCOPE OF WORK TO SUIT EXISTING ARCHITECTURAL, STRUCTURAL AND MECHANICAL SITE CONDITIONS, DRAWINGS, SPECIFICATIONS AND ALL CONTRACT DOCUMENTS. NO EXTRA WILL SUBSEQUENTLY BE ALLOWED TO COVER ANY SUCH ERROR, OMISSION AND/OR OVERSIGHT FOR NOT HAVING MADE A THOROUGH INSPECTION OF THE GROUNDS, EXISTING CONDITIONS, DRAWINGS, SPECIFICATION AND DESIGN INTENT. THE ELECTRICAL CONTRACTOR SHALL NOTE THAT THE EXISTING BUILDING WILL REMAIN IN OPERATION THROUGHOUT DEMOLITION CONSTRUCTION. ALLOW FOR ANY WORK REQUIRED TO BE DONE WHICH MAY AFFECT POWER SUPPLY AND OPERATION OF THE BUILDING TO BE CARRIED OUT AFTER HOURS OR AT A TIME CONVENIENT TO THE BUILDING MANAGEMENT. PROVIDE TEMPORARY SERVICES AS REQUIRED TO ENSURE CONTINUED OPERATION AT ALL TIMES.
- CAREFULLY EXAMINE OTHER EXISTING UTILITY LINES SUCH AS GAS, WATER ETC. PRIOR TO START THE ELECTRICAL CONSTRUCTION WORKS AND COORDINATE WITH OTHER TRADES AND REPORT OF ANY DISCREPANCY PRIOR TO PROCEEDING.
- ALL EXISTING SERVICES THAT ARE NOT SHOWN ON THE DRAWINGS AND ARE EXPOSED DURING DEMOLITION/CONSTRUCTION SHALL BE VERIFIED BY THE CONTRACTOR AS TO THE SOURCE AND ROUTING AND SHALL BE REPORTED TO THE CONSULTANT WITH PROPOSED RESOLUTIONS.
- THESE DRAWINGS SHALL BE READ & PRICED IN CONJUNCTION WITH ARCHITECTURAL, MECHANICAL, AND STRUCTURAL DRAWINGS AND SPECIFICATIONS AS WELL AS ALL OTHER DOCUMENTS FORMING THIS BID. INCLUDE FOR THE SUPPLY AND INSTALLATION OF POWER, SYSTEMS, AND LIGHTING AS PER THE COMPLETE CONSTRUCTION DOCUMENTS. NO EXTRA COST WILL BE ACCEPTED IN FAILURE TO OBTAINING AND/OR REVIEW OF SUCH DOCUMENTS. REFER TO ARCHITECTURAL, ELECTRICAL, STRUCTURAL AND MECHANICAL LAYOUTS IN CONJUNCTION FOR EXACT LOCATION OF ALL EQUIPMENT. REPORT ANY DISCREPANCIES TO THE ELECTRICAL ENGINEER PRIOR TO COMMENCING WORK. NO EXTRA WILL BE PROVIDED AS A RESULT OF A FAILURE TO DO SO.
- IT IS MANDATORY THAT ELECTRICAL WORK CONFORM TO ALL APPLICABLE CODES (INCLUDING THE ONTARIO BUILDING, FIRE, AND ONTARIO ELECTRICAL SAFETY CODE), BASE BUILDING (BOARD) STANDARDS, AND THE STANDARDS SET BY ANY AND ALL LOCAL AUTHORITIES HAVING JURISDICTION.
- LOCATIONS OF ALL NEW DISCONNECT SWITCHES AND STARTERS SHALL BE CONFIRMED WITH DIVISION 15 PRIOR TO INSTALLATION. STARTERS FOR EXHAUST FANS SHALL BE SUPPLIED AND INSTALLED BY DIV. 16.
- ALL ELECTRICAL WORK SHALL BE INSPECTED BY THE ELECTRICAL SAFETY AUTHORITY (ESA), ARRANGE AND PAY FOR ALL INSPECTIONS REQUIRED FOR THE DURATION OF THE PROJECT.
- THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR HIRING A FIRE WATCH AS REQUIRED BY CODE. LOCAL AUTHORITIES HAVING JURISDICTION, AND DURING ANY ALTERATION OR DOWNTIME OF THE ARE ALARM SYSTEM, FIRE WATCH SHALL BE PRESENT THROUGHOUT THE DOWNTIME DURATION.
- DURING CONSTRUCTION, IT IS CRITICAL THAT THE ELECTRICAL CONTRACTOR COORDINATES ITS WORK WITH ALL OTHER TRADES. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR REVIEWING THE SCOPE OF WORK OF OTHER TRADES (INCLUDING, BUT NOT LIMITED TO, ARCHITECTURAL, MECHANICAL, STRUCTURAL, MILLWORK, ETC.) IN CONJUNCTION WITH THE PROPOSED ELECTRICAL SCOPE OF WORK. THE ELECTRICAL CONTRACTOR SHALL ESPECIALLY REVIEW MECHANICAL CONNECTOR AND NEW MILLWORK LOCATIONS AND IDENTIFY ANY POSSIBLE INTERFERENCES WITH THE PROPOSED ELECTRICAL WORK PRIOR TO ROUGH-IN (I.E. RECEPTACLE LOCATIONS SHALL BE SHIFTED FROM THE PROPOSED LOCATION TO ANOTHER LOCATION SHOULD THE CONTRACTOR FIND OUT DURING COORDINATION THAT MECHANICAL CONNECTORS ARE BEING INSTALLED IN A CERTAIN LOCATION. SIMILARLY, RECEPTACLE HEIGHTS SHALL BE ADJUSTED IN THE EVENT THAT NEW, PROPOSED MILLWORK MIGHT BLOCK PROPOSED RECEPTACLES. NO EXTRA WILL BE PERMITTED OF AN ERROR RELATED TO A LACK OF COORDINATION ON SITE.
- THE ELECTRICAL CONTRACTOR SHALL LABEL ALL NEW AND EXISTING LIGHT SWITCHES, RECEPTACLES AND JUNCTION BOXES COVERPLATES WITH THE PANEL NAME AND BREAKER IT IS FED FROM. ALL LABELING OF ELECTRICAL DEVICES SHALL BE DONE SO WITH A LABELMAKER ONLY. NO HAND WRITTEN LABELS WILL BE PERMITTED.
- WHERE NEW PARTITIONS ARE BEING CONSTRUCTED, ALL WIRING AND RACEWAYS SHALL BE EMBEDDED IN THE CONSTRUCTION OF THE NEW WALLS AND ALL BACK BOXES SHALL BE RECESSED. WHERE NEW DEVICES/SYSTEMS ARE PROPOSED ON EXISTING BLOCK WALLS, UTILIZE WIREMOLD 500/700 SERIES AS RACEWAY FOR ALL NEW PROVIDE WIREMOLD BACKBOXES FOR SURFACE MOUNTED, INTERIOR APPLICATIONS. THE USE OF SHEET METAL BOXES WILL NOT BE PERMITTED. WHENEVER POSSIBLE, ALL CONDUIT INSTALLATION AT FRONT OF HOUSE (FOH: OFFICES, CORRIDORS, STAIRCASE, GYMNASIUM, CLASSROOMS, ETC.) TO BE CONCEALED IN FALSE CEILINGS AND WALLS. ALL EXPOSED CONDUITS AT FOH TO BE PAINTED SAME COLOUR AS ARCHITECTURAL FINISH TO BLEND IN. BACK OF HOUSE (BOH: ELECTRICAL / MECHANICAL / FAN ROOMS, ETC.) CONDUIT INSTALLATION TO RUN EXPOSED WITHOUT PAINT.
- IN THE EVENT OF ANY DISCREPANCY BETWEEN THE ELECTRICAL DRAWINGS AND SPECIFICATIONS, ALLOW FOR THE HIGHEST-PRICED OPTION IN THE TENDER PRICE.
- ALL WIRING USED ON THIS PROJECT SHALL BE RUN IN RACEWAYS. NO USE OF ARMoured (BX) CABLE WILL BE PERMITTED WITH THE EXCEPTION OF RUNS NOT TO EXCEED 5' BETWEEN A LIGHT FIXTURE AND THE RESPECTIVE JUNCTION BOX.
- COORDINATE DISRUPTION OF ELECTRICAL SERVICES (FIRE ALARM, POWER, ETC.) WITH THE PROJECT SUPERVISOR WITH AT MINIMUM 5 DAYS ADVANCED NOTICE. SEEK APPROVAL PRIOR TO EXECUTION.
- SEAL AND FIRESTOP ALL WALL, FLOOR, AND ROOF PENETRATIONS THROUGH FIRE RATED ASSEMBLIES.
- MAKE GOOD ALL SURFACES, INCLUDING CORE HOLES FROM DEMOLISHED OR RELOCATED EQUIPMENT/DEVICES, AFTER COMPLETION OF WORK.
- ALL MODIFICATIONS TO THE FIRE ALARM SYSTEM SHALL BE COMPLETED BY THE BASE BUILDING FIRE ALARM CONTRACTOR/VENDOR/MANUFACTURER. NEW FIRE ALARM DEVICES SHALL MATCH EXISTING, CONNECT NEW FIRE ALARM DEVICES TO EXISTING CIRCUITS WITH SPARE CAPACITY. PROVIDE NEW FIRE ALARM CIRCUITS AS REQUIRED. ALLOW FOR ALL ASSOCIATED COSTS AND ADDITIONAL COMPONENTS INCLUDING, BUT NOT LIMITED TO: ASSOCIATED EQUIPMENT, DEVICES, PROGRAMMING, TESTING, AND VERIFICATION TO MAKE SYSTEM OPERATIONAL AND CODE COMPLIANT. FIRE ALARM SYSTEM SHALL BE INSTALLED AS PER LATEST EDITION OF CANULC-S524. FIRE ALARM VERIFICATION SHALL BE COMPLETED AS PER LATEST EDITION OF CANULC-S537.
- REWORK AND EXTEND EXISTING FEEDERS, CONDUITS AND JUNCTION BOXES AS REQUIRED TO ACCOMMODATE NEW INSTALLATIONS.
- ALLOW FOR SCANNING, X-RAY, AND CORING AS REQUIRED.
- THE CONTRACTOR SHALL REPLACE OR REPAIR ANY ITEMS WHICH ARE

- DAMAGED DUE TO THIS WORK AT NO EXTRA COST TO THE BUILDING OWNER.
- CONFIRM EXACT POWER REQUIREMENTS AND RECEPTACLE TYPES FOR SPECIAL EQUIPMENT WITH MANUFACTURER PRIOR TO INSTALL. PROVIDE HARDWIRE CONNECTION IN LIEU OF RECEPTACLES OR WICE VERSA, AS REQUIRED.
- ALL CONDUIT INSTALLATION AT ROOF LEVEL TO BE RIGID METTALIC CONDUIT. ALL INDOOR CONDUITS TO BE EMT. CONDUIT INSTALLATION AT ROOFTOP TO BE SUPPORTED WITH UNISTRUTS MOUNTED ON POLYCARBONATE BASE ROOFTOP SUPPORT SYSTEM THAT DOES NOT REQUIRE ROOFTOP MEMBRANE PENETRATION.
- ALL FINAL CONNECTIONS TO MECHANICAL EQUIPMENT SHALL BE IN LIQUID TIGHT FLEXIBLE.
- PROVIDE UPDATED, TYPE-WRITTEN PANEL DIRECTORIES AFTER COMPLETION OF WORK OF AFFECTED PANELS.
- PROVIDE LAMACOID NAME PLATES WITH ENGRAVED LETTERS 0.4" (10 MM) HIGH, FOR ELECTRICAL EQUIPMENT BUT NOT LIMITED TO PANELS, SWITCHBOARDS, TRANSFORMERS, DISCONNECT SWITCHES, BREAKERS, CONTACTORS, RELAY PANELS, STARTERS, TVSS AND MISCELLANEOUS PANELS.
27.1. NAME OF THE EQUIPMENT / NAME OF THE SUPPLY SOURCE
27.2. RATED LOAD AMP (A) OR HORSEPOWER (HP) – VOLTAGE (V) – NUMBER OF PHASE (Ø) – NUMBER OF WIRE (W) – FREQUENCY (HZ).
- UPON COMPLETION OF CONTRACT WORK, PRIOR TO SUBSTANTIAL PERFORMANCE INSPECTION, CONTRACTOR SHALL SUBMIT AS-BUILT DRAWINGS TO THE CONSULTANT/ENGINEER FOR REVIEW AND APPROVAL. CONTRACTOR SHALL SUBMIT HARD COPY AND CAD FORMAT 2004 VERSION UPDATED AS-BUILT DRAWINGS AS PART OF CLOSEOUT DOCUMENT.
- PROVIDE CLOSEOUT DOCUMENTS WHICH INCLUDE 3 CDS OF ELECTRONIC COPY AND 1 3-RING BINDER HARD COPY OF CLOSEOUT DOCUMENTS WHICH SHALL INCLUDE BUT NOT LIMITED TO FOLLOWING: ESA FINAL INSPECTION CERTIFICATE, STAMPED APPROVED SHOP DRAWINGS, WARRANTY LETTER, TEST REPORT/CERTIFICATE FROM THE MANUFACTURER, FIRE ALARM VERIFICATION REPORT, O & M MANUAL OF EQUIPMENT (IF ANY) AND AS-BUILT DRAWINGS (AUTOCAD 2004 AND PDF FORMAT)
- WHERE EMT CONDUIT IS REQUIRED, PROVIDE COMPRESSION TYPE COUPLINGS (CAST FITTING AND SET-SCREW NOT ACCEPTABLE) AND WATERTIGHT GLAND CONNECTOR WITH FACTORY INSULATED THROATS AND TO BE FORGED STEEL.
- THE CONTRACTOR SHALL REVIEW CONDITION OF EXISTING CEILING TILE(S) AND DRYWALL CEILING OF AFFECTED AREAS AND THEN REPORT FINDINGS E.G DAMAGED/QUESTIONED CEILING TILE(S) AND DRYWALL ETC. TO THE PROJECT SUPERVISOR/ENGINEER IN 2 WEEK ONCE TENDER AWARDED. OTHERWISE REPLACEMENT OF DAMAGED/QUESTIONED DRYWALL CEILING AND/OR CEILING TILE(S) SHALL BE DONE BY THE CONTRACTOR AFTER COMPLETION OF SYSTEM INSTALLATION. NO EXTRAS TO THE SCHOOL IS PERMITTED.
- CONTRACTOR TO ALLOW FOR THE REMOVAL AND REINSTALLATION OF 2 DOZEN DEVICES(I.E. LIGHT FIXTURES, PA SYSTEM DEVICES, FIRE ALARM DEVICES, ETC.) NOT SHOWN ON DRAWINGS. AS DIRECTED BY THE CONSULTANT. ALLOW FOR FIRE ALARM REVERIFICATION REPORT AS REQUIRED.
- CONTRACTOR TO ALLOW FOR THE REMOVAL AND REINSTALLATION OF 2 DOZEN DEVICES(I.E. LIGHT FIXTURES, PA SYSTEM DEVICES, FIRE ALARM DEVICES, ETC.) NOT SHOWN ON DRAWINGS. AS DIRECTED BY THE CONSULTANT. ALLOW FOR FIRE ALARM REVERIFICATION REPORT AS REQUIRED.

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
GENERAL	
E, EX	Existing to Remain
ER	Existing to be demolished/removed
RR	Existing to be removed and reconnected
N	New material/equipment/services
REL	Material/equipment/services to be relocated.
REP	Existing in Relocated Position
WG	Wire Guard
U/F	Under Raised Floor
WP	Weather Proof
NIC	Not In Contract
GFCI, GFI	Ground Fault Circuit Interrupter
VFD	Variable Frequency Drive
LIGHTING FIXTURES	
Refer to Lighting Fixture Schedule for exact fixture specifications.	
	Denotes new fluorescent luminaire.
	As above, connected to night light circuit.
	Luminaires ceiling or wall mounted respectively.
	As above, connected to night light circuit.
	Square aperture pot light.
	Fluorescent strip light
	Fluorescent strip light
	As above, connected to night light circuit.
NL	Connected to light light circuit.
EMERGENCY LIGHTING	
	Ceiling or wall mounted illuminated exit sign. Shaded area indicates illuminated face. Provide directional arrows as indicated on plans.
	Ceiling or wall mounted illuminated exit sign combo unit c/w emergency heads. Shaded area indicates illuminated face. Provide directional arrows as indicated on plans.
	Combination emergency lighting & battery unit. BU-X indicates battery unit # for remote heads to be connected to.
	Emergency lighting battery unit. BU-X indicates battery unit # for remote heads to be connected to.
	One and two head wall mounted emergency lighting remote units.
	One and two head ceiling mounted emergency lighting remote units.
EM	Denotes 'EMERGENCY'
POWER EQUIPMENT	
	1-phase direct connection point/outlet as noted.
	3-phase direct connection point/outlet as noted.
	Single phase motor, HP (kW) as noted.
	Three phase motor, HP (kW) as noted.
DISTRIBUTION EQUIPMENT	
	Surface mounted distribution panelboard.
	Surface mounted distribution panelboard.
	Flush mounted distribution panelboard.
	Transformer
	Unfused disconnect switch, size as noted.
	Fused disconnect switch, size and fusing as noted.
	Manual motor starter.
	Contact or starter.
	Magnetic motor starter.
	Combination motor starter.
FIRE ALARM / FIRE DETECTION	
	Manually operated fire alarm pull station.
	Fire alarm bell, ceiling mounted
	Fire alarm bell, wall mounted.
	Surface mounted fire alarm speaker in garage
	Fire alarm horn
	Fire alarm horn
	Fire alarm mini-horn
	Fire alarm strobe.
	Combination horn/strobe
	Fire alarm ceiling mounted speaker
	Fire alarm ceiling mounted speaker
	Fire alarm wall mounted speaker
	Heat detector.
	Heat detector, 94 degree C fixed temp.
	Heat detector, 58 degree C fixed temp & rate or rise.
	Photoelectric smoke detector.
	Ionization smoke detector.
	Duct smoke detector.
	Relay Module
SINGLE LINE DIAGRAM	
	Breaker
	Disconnect (unfused)
	Fuse
	Transformer
	Meter
	Potential (Voltage) Transformer
	Current Transformer
	Contact or
SPD	Surge Protection Device

This legend is generic. All symbols listed may not be applicable for this project. Refer to floor plans to determine used devices and equipment.

LIGHTING CONTROLS

	Single pole, single throw toggle switch c/w coverplate.
	Single pole, single throw toggle switch with two gang coverplate
	Single pole, single throw toggle switch with three gang coverplate
	Three-way switch.
	Four-way switch.
	Dimmer switch, 1500W rated. Provide dimming ballast for fluorescent fixtures.
	LV Master Switch
	Wall mounted occupancy sensor. P denotes Passive Infrared, U denotes Ultrasonic, PU denotes dual technology.
	Ceiling mounted occupancy sensor. P denotes Passive Infrared, U denotes Ultrasonic, D denotes Dual Passive Infrared/Ultrasonic.
OTHER CONTROLS	
	Fan switch
	Key Switch
	Switch c/w Pilot Light
POWER RECEPTACLES AND BOXES	
	120V U-ground duplex receptacle.
	120V U-ground quad receptacle.
	120V U-ground duplex Separate Circuit receptacle
	120V U-ground Isolated Ground (IG) Circuit duplex receptacle.
	120V Duplex receptacle w/ GFI
	120V U-ground duplex dedicated receptacle c/w separate neutral run from each panel to each receptacle.
	20A-1P, 5-20RA Configuration duplex receptacle
	Special Receptacle. Verify outlet requirements prior to rough-in.
	120V U-ground duplex split receptacle mounted above counter top as instructed by Designer on site.
	3-Pole Receptacle as indicated.
	Clock receptacle
	120V U-ground duplex receptacle mounted above counter top or as instructed on site.
	120V U-ground duplex receptacle on floor.
	120V U-ground duplex receptacle mounted on rear of rack in hot aisle mounted at typical wall mounted receptacle height.
	Floor monument.
	Junction box. Pull box.
COMMUNICATION DEVICES AND ROUGH-INS	
	Wall mounted data or telephone outlet.
	Wall mounted telephone outlet.
	Wall mounted data outlet.
	Any of the above devices mounted above counter top or as instructed on site.
	Wall mounted television outlet.

DRAWING SCHEDULE

- E-1 LEGEND AND SPECIFICATIONS
- E-2 MECHANICAL EQUIPMENT WIRING SCHEDULE
- E-3 FIRST FLOOR - KEY PLAN
- E-4 FIRST FLOOR - EXISTING/DEMOLITION
- E-5 FIRST FLOOR - NEW WORK
- E-6 SECOND FLOOR - ELECTRICAL REPLACEMENT

REV.	DATE	DESCRIPTION
4	2024-DEC-17	REISSUED FOR TENDER
3	2024-DEC-13	ISSUED FOR TENDER
2	2024-DEC-06	ISSUED FOR TENDER
1	2024-NOV-20	ISSUED FOR REVIEW
0	2024-OCT-24	ISSUED FOR 50% REVIEW

Key Plan	True North
	P.N. = PROJECT NORTH T.N. = TRUE NORTH

Engineer Logo	Spectra Engineering
	250 SHEPPARD AVE EAST, SUITE 506, TORONTO, ONTARIO, M2N 6M9 TEL: (947) 478-5158 FAX: (947) 478-5917

Client	
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Drawing Overall Scale	AS SHOWN
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Project Name & Address	TOMKEN TWIN ARENA MECHANICAL AND VARIOUS BUILDING LIFECYCLE RENEWALS 4495 TOMKEN RD, MISSISSAUGA, ON L4W 1J9
------------------------	---

Drawing Title	ELECTRICAL SERVICES LEGEND AND SPECIFICATIONS
---------------	---

DATE: 16/09/2024	Engineer / Architect Stamp
DESIGNED BY: F.A.	
DRAWN BY: F.A.	
APPROVED BY: J.E.	
PROJECT NO.: 1024104	

MECHANICAL EQUIPMENT WIRING SCHEDULE											
EQUIPMENT ID	EQUIPMENT DESCRIPTION	STARTER LOCATION	STARTER TYPE	MCA/HP/KW	VOLTS/PH./FRE Q	BREAKER SIZE OR FUSE SIZE	FEEDER SIZE	PANEL AND CCT. NOS.	REMARKS	FIRE ALARM FAN SHUTDOWN [AHU/EF ONLY]	PROVIDE DUCT SMOKE DETECTOR
BLR1	BOILER	BOILER ROOM	DIRECT CONNECTION	-	115V/1Ø/60	20A-1P	2 #12AWG+ G IN 21mmC	LP1 B2, CCT#46	ELECTRICAL DIVISION SHALL PROVIDE POWER CONNECTION TO THE UNIT. PROVIDE LOCAL DISCONNECT SWITCH.	-	-
BLR2	BOILER	BOILER ROOM	DIRECT CONNECTION	-	115V/1Ø/60	20A-1P	2 #12AWG+ G IN 21mmC	LP1 B2, CCT#48	ELECTRICAL DIVISION SHALL PROVIDE POWER CONNECTION TO THE UNIT. PROVIDE LOCAL DISCONNECT SWITCH.	-	-
P1	HWT-1-PUMP	BOILER ROOM	COMBINATION STARTER	0.4 HP	115V/1Ø/60	15A-1P	2 #12AWG+ G IN 21mmC	LP1 B2, CCT#54	ELECTRICAL DIVISION SHALL PROVIDE POWER CONNECTION TO THE UNIT. WITH VFD C/W BACKNET	-	-
P2	HWT-2-PUMP	BOILER ROOM	COMBINATION STARTER	0.4 HP	115V/1Ø/60	15A-1P	2 #12AWG+ G IN 21mmC	LP1 B2, CCT#52	ELECTRICAL DIVISION SHALL PROVIDE POWER CONNECTION TO THE UNIT. WITH VFD C/W BACKNET	-	-
P3	SNOW MELTING - PUMP	BOILER ROOM	COMBINATION STARTER	0.4 HP	115V/1Ø/60	15A-1P	2 #12AWG+ G IN 21mmC	LP1 B2, CCT#45	ELECTRICAL DIVISION SHALL PROVIDE POWER CONNECTION TO THE UNIT. PROVIDE LOCAL DISCONNECT SWITCH.	-	-
DHW-RPMP	DHW - PUMP	BOILER ROOM	COMBINATION STARTER	0.25 HP	115V/1Ø/60	15A-1P	2 #12AWG+ G IN 21mmC	LP1 B2, CCT#50	ELECTRICAL DIVISION SHALL PROVIDE POWER CONNECTION TO THE UNIT. PROVIDE LOCAL DISCONNECT SWITCH.	-	-
BLR1-PMP	BOILER1 - PUMP	BOILER ROOM	DIRECT CONNECTION	0.5 HP	115V/1Ø/60	15A-1P	2 #12AWG+ G IN 21mmC	LP1 B2, CCT#58	ELECTRICAL DIVISION SHALL PROVIDE POWER CONNECTION TO THE UNIT. PROVIDE LOCAL DISCONNECT SWITCH.	-	-
BLR2-PMP	BOILER2 - PUMP	BOILER ROOM	DIRECT CONNECTION	0.5 HP	115V/1Ø/60	15A-1P	2 #12AWG+ G IN 21mmC	LP1 B2, CCT#60	ELECTRICAL DIVISION SHALL PROVIDE POWER CONNECTION TO THE UNIT. PROVIDE LOCAL DISCONNECT SWITCH.	-	-
DHW_TNK1	DOMESTIC HOT WATER TANK	BOILER ROOM	DIRECT CONNECTION	0.5 HP	115V/1Ø/60	15A-1P	2 #12AWG+ G IN 21mmC	LP1 B2, CCT#62	ELECTRICAL DIVISION SHALL PROVIDE POWER CONNECTION TO THE UNIT. PROVIDE LOCAL DISCONNECT SWITCH.	-	-
DHW_TNK2	DOMESTIC HOT WATER TANK	BOILER ROOM	DIRECT CONNECTION	0.5 HP	115V/1Ø/60	15A-1P	2 #12AWG+ G IN 21mmC	LP1 B2, CCT#64	ELECTRICAL DIVISION SHALL PROVIDE POWER CONNECTION TO THE UNIT. PROVIDE LOCAL DISCONNECT SWITCH.	-	-
UH-1	UNIT HEATER	REFRIGERATION ROOM	DIRECT CONNECTION	1 / 20HP	115V/1Ø/60	15A-1P	2 #12AWG+ G IN 21mmC	LP1 B2, CCT#66	ELECTRICAL DIVISION SHALL PROVIDE POWER CONNECTION TO THE UNIT. PROVIDE LOCAL DISCONNECT SWITCH.	-	-
UH-2	UNIT HEATER	REFRIGERATION ROOM	DIRECT CONNECTION	1 / 20HP	115V/1Ø/60	15A-1P	2 #12AWG+ G IN 21mmC	LP1 B2, CCT#66	ELECTRICAL DIVISION SHALL PROVIDE POWER CONNECTION TO THE UNIT. PROVIDE LOCAL DISCONNECT SWITCH.	-	-
UH-3	UNIT HEATER	ICE RESURFACER ROOM	DIRECT CONNECTION	1 / 20HP	115V/1Ø/60	15A-1P	2 #12AWG+ G IN 21mmC	LP1 B, CCT#30	ELECTRICAL DIVISION SHALL PROVIDE POWER CONNECTION TO THE UNIT. PROVIDE LOCAL DISCONNECT SWITCH.	-	-
UH-4	UNIT HEATER	ICE RESURFACER ROOM	DIRECT CONNECTION	1 / 20HP	115V/1Ø/60	15A-1P	2 #12AWG+ G IN 21mmC	LP1 B, CCT#30	ELECTRICAL DIVISION SHALL PROVIDE POWER CONNECTION TO THE UNIT. PROVIDE LOCAL DISCONNECT SWITCH.	-	-
EF-3	EXHAUST FAN	BOILER ROOM	DIRECT CONNECTION	1 / 20HP	115V/1Ø/60	15A-1P	2 #12AWG+ G IN 21mmC	LP1 B, CCT#39	ELECTRICAL DIVISION SHALL PROVIDE POWER CONNECTION TO THE UNIT. PROVIDE LOCAL DISCONNECT SWITCH.	-	-
HP1	HEAT PUMP	BOILER ROOM	DIRECT CONNECTION	MCA: 38A	575V/3Ø/60	60A-3P	4 #6AWG+ G IN 27mmC	MCC#2 STORAGE	ELECTRICAL DIVISION SHALL PROVIDE POWER CONNECTION TO THE UNIT. PROVIDE LOCAL DISCONNECT SWITCH.	-	-
P4	HEAT PUMP-PUMP	BOILER ROOM	DIRECT CONNECTION	1HP	575V/3Ø/60	15A-3P	3#12AWG+ G IN 21mmC	MCC#2 STORAGE	ELECTRICAL DIVISION SHALL PROVIDE POWER CONNECTION TO THE UNIT. PROVIDE LOCAL DISCONNECT SWITCH.	-	-
OVER HEAD DOOR	OVER HEAD DOOR	EXIT DOOR	DIRECT CONNECTION	-	208V/3Ø/60	15A-3P	3 #12AWG+ G IN 21mmC	LP1 B2, CCT#68, 70, 72	ELECTRICAL DIVISION SHALL PROVIDE POWER CONNECTION TO THE UNIT. PROVIDE LOCAL DISCONNECT SWITCH.	-	-

- PROVIDE POWER CONNECTION TO ALL MECHANICAL EQUIPMENT LISTED IN THE SCHEDULE FOR A FULLY OPERATIONAL SYSTEM. ALL DEVICES ARE TO BE NEW (CONDUIT, WIRE, BREAKERS, DISCONNECTS, STARTERS, VFD, ETC.) UNLESS NOTED OTHERWISE. REFER TO MECHANICAL LAYOUTS AND SCHEDULES FOR EXACT LOCATION OF EQUIPMENT. PROVIDE SEPARATE BREAKER FOR INDIVIDUAL MECHANICAL EQUIPMENT. SIZE AS INDICATED IN THE SCHEDULE.
- ALL LOOSE STARTERS (MANUAL, MAGNETIC, OR COMBINATION TYPE AS STATED) SHALL BE SUPPLIED AND INSTALLED BY DIVISION 26. STARTER LOCATIONS SHALL BE VERIFIED AND COORDINATED WITH DIVISION 23 AND CONSULTANT ON SITE. INTEGRAL STARTER WILL BE BUILT-IN THE MECHANICAL EQUIPMENT AND SUPPLIED & INSTALLED BY THE EQUIPMENT MANUFACTURER. ACCEPTABLE MANUFACTURER FOR LOOSE STARTERS SHALL BE CUTLER HAMMER, SIEMENS AND SQUARE D. ALL MAGNETIC STARTER SHALL C/W OVERLOAD PROTECTION, H/O/A SWITCH AND GREEN-RUN AND RED-STOP PILOT LAMPS.
- PROVIDE A LOCAL DISCONNECT SWITCH FOR ALL MECHANICAL EQUIPMENT IN THIS SCHEDULE, UNLESS IT IS NOTED THAT THE DISCONNECT SWITCH IS TO BE PROVIDED BY THE EQUIPMENT MANUFACTURER. DISCONNECT SWITCH SHALL BE SEPARATE FROM THE STARTER SERVING THE RESPECTIVE EQUIPMENT. NOTE THAT DISCONNECT SWITCHES ARE NOT ILLUSTRATED ON THE FLOOR PLAN (FOR CLARITY), HOWEVER MUST BE SUPPLIED AND INSTALLED BY DIVISION 26 FOR ALL MECHANICAL EQUIPMENT LISTED IN THE ABOVE SCHEDULE.
- THE ELECTRICAL CONTRACTOR WILL BE RESPONSIBLE FOR REVIEWING ALL MECHANICAL SHOP DRAWINGS WITH RESPECT TO RELEVANT ELECTRICAL INFORMATION PRIOR TO THE SHOP DRAWINGS BEING SUBMITTED TO THE MECHANICAL AND ELECTRICAL ENGINEER FOR REVIEW. NO EQUIPMENT SHALL BE ORDERED PRIOR TO SUBMITTING SHOP DRAWINGS AND RECEIVING SHOP DRAWINGS BACK APPROVED BY BOTH THE MECHANICAL AND ELECTRICAL ENGINEER. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR WORKING WITH EACH MANUFACTURER OR MECHANICAL EQUIPMENT AND GATHERING THE 'MCA' AND 'MOP' OF ALL EQUIPMENT AND LISTING IT ON THE SHOP DRAWING FOR EACH MECHANICAL EQUIPMENT PRIOR TO SUBMITTING SHOP DRAWINGS FOR REVIEW.
- THE STARTER LOCATION AND TYPE LISTED ABOVE IS FOR INFORMATION PURPOSES ONLY. THE CONTRACTOR SHALL REFER TO MECHANICAL DRAWINGS FOR EXACT EQUIPMENT LOCATIONS AND MANUFACTURER CUT SHEETS AND EQUIPMENT DATA SHEET FOR STARTER INFORMATION. NO EXTRA WILL BE PERMITTED AS A RESULT OF A FAILURE TO DO SO.
- COORDINATE COIL VOLTAGE FOR ALL STARTERS WITH THE CONTROLS CONTRACTOR WHERE THE EQUIPMENT IS NOTED TO BE TIED TO THE BAS SYSTEM.

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0	2024-OCT-24	ISSUED FOR 50% REVIEW
REV.	DATE	DESCRIPTION

Key Plan

True North

P.N. = PROJECT NORTH
T.N. = TRUE NORTH

Engineer Logo

250 SHEPPARD AVE EAST, SUITE 606, TORONTO, ONTARIO, M2N 6M9
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Client

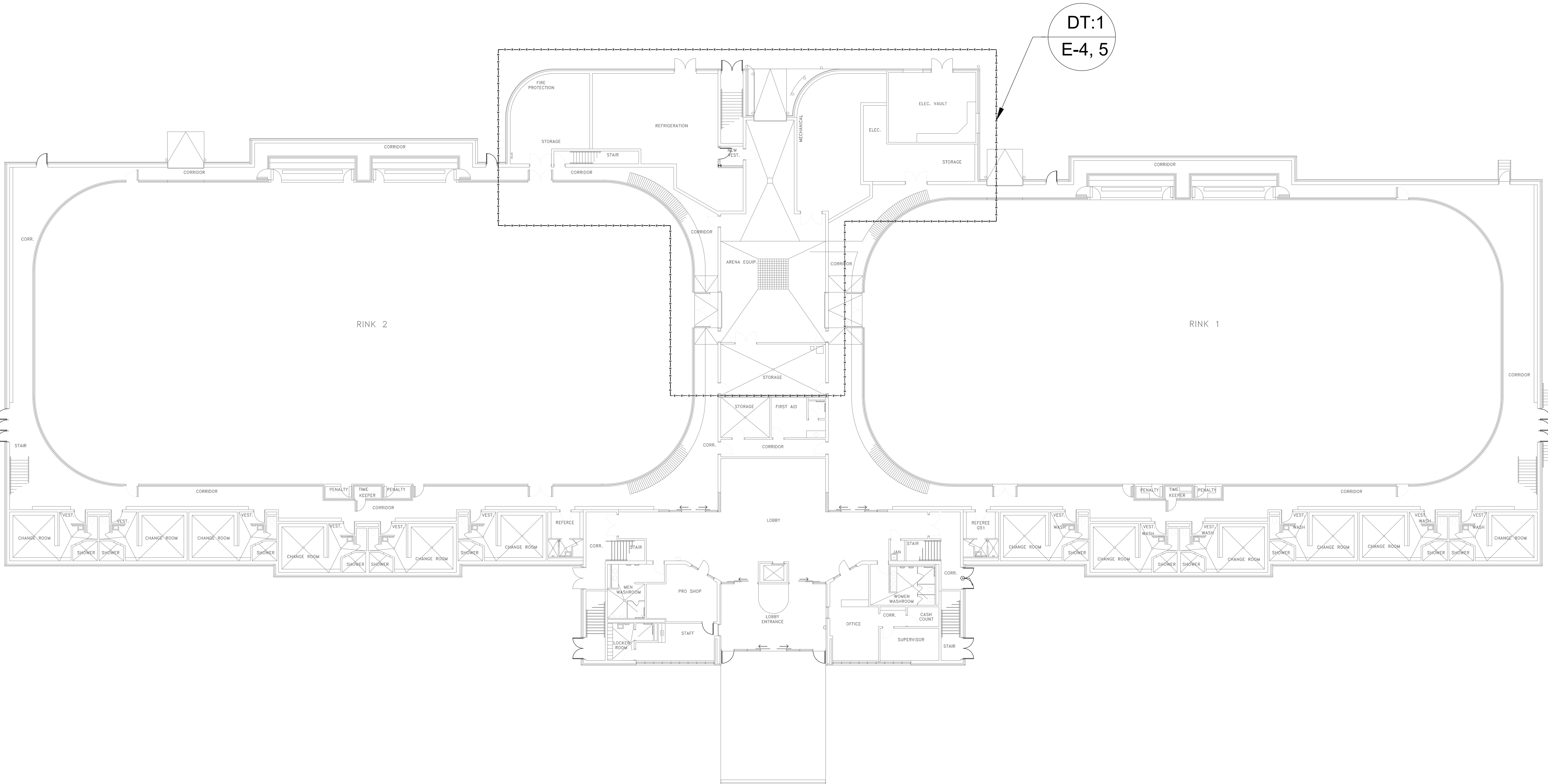
Drawing Overall Scale: AS SHOWN

Project Name & Address: **TOMKEN TWIN ARENA**
MECHANICAL AND VARIOUS BUILDING LIFECYCLE RENEWALS
4495 TOMKEN RD, MISSISSAUGA, ON L4W 1J9

Drawing Title: **ELECTRICAL SERVICES**
MECHANICAL EQUIPMENT WIRING SCHEDULE

DATE: 16/09/2024 DESIGNED BY: F.A. DRAWN BY: F.A. APPROVED BY: J.E. PROJECT NO.: 1024104	Engineer / Architect Stamp
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Drawing No. **E-2**



FIRST FLOOR - KEY PLAN

Scale: NTS

REV.	DATE	DESCRIPTION
4	2024-DEC-17	REISSUED FOR TENDER
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Key Plan

True North

P.N. = PROJECT NORTH
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Engineer Logo

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Client

MISSISSAUGA

Drawing Overall Scale

AS SHOWN

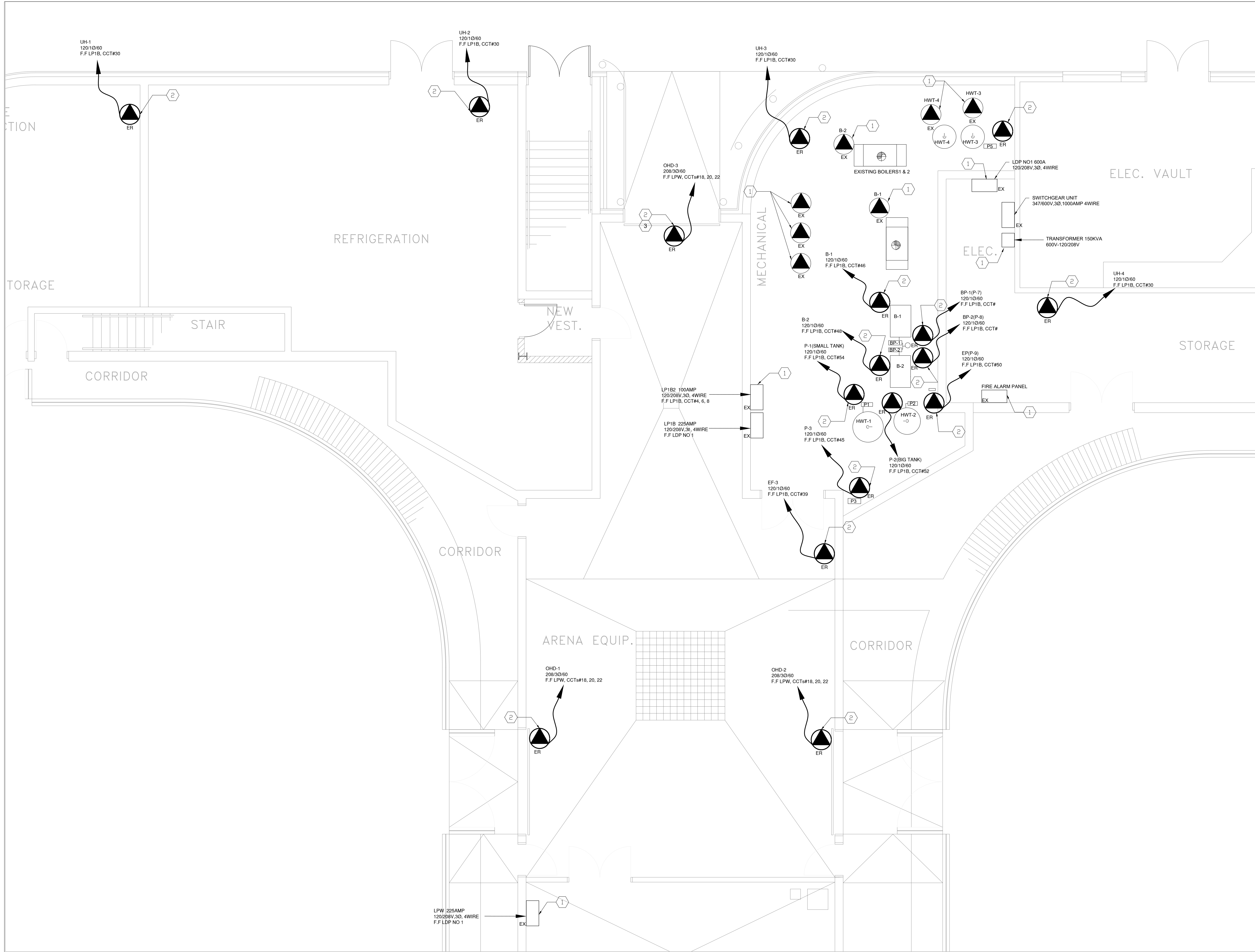
Project Name & Address

TOMKEN TWIN ARENA
MECHANICAL AND VARIOUS BUILDING LIFECYCLE RENEWALS
4495 TOMKEN RD, MISSISSAUGA, ON L4W 1J9

Drawing Title

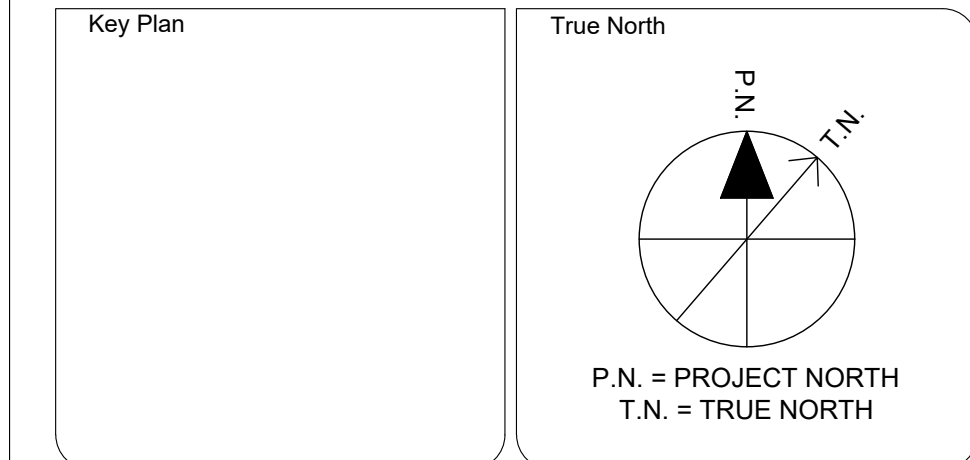
ELECTRICAL SERVICES
FIRST FLOOR - KEY PLAN

DATE: 16/09/2024	Engineer / Architect Stamp
DESIGNED BY: F.A.	
DRAWN BY: F.A.	
APPROVED BY: J.E.	
PROJECT NO.: 1024104	



- GENERAL NOTES:**
1. ALLOW TO RELOCATE EXISTING FIRE ALARM DETECTOR TO BE ACCESSIBLE FOR TESTING AND MAINTENANCE AFTER INSTALLATION OF THE NEW PIPING AND MECHANICAL EQUIPMENT.
 2. ALLOW TO RELOCATE EXISTING HORN/STROBE TO BE VISIBLE AFTER INSTALLATION OF THE NEW PIPING AND MECHANICAL EQUIPMENT.
 3. ALLOW TO RELOCATE EXISTING EMERGENCY LIGHTING TO PROVIDE ROOM COVERAGE AFTER INSTALLATION OF THE NEW PIPING AND MECHANICAL EQUIPMENT.
 4. PROVIDE FIRE ALARM VERIFICATION FOR ANY MODIFICATIONS TO FIRE ALARM DEVICES.
- DESIGN NOTES (DEMO/EXISTING WORK):**
- 1 EXISTING EQUIPMENT TO REMAIN.
 - 2 REMOVE EXISTING EQUIPMENT FEEDER, DISCONNECT, STARTER, WIRE AND CONDUIT BACK TO SOURCE PANEL AND MAKE SAFE. UPDATE EXISTING SCHEDULE WITH NEW TYPEWRITTEN SCHEDULE. ALLOW TO TRACE CIRCUIT BACK TO SOURCE.
 - 3 DOOR CONTACTS TO BE REMOVED, PRIOR TO THE REMOVAL OF THE EXISTING DOORS BY OWNERS SECURITY VENDOR OF RECORD AND PAID THROUGH THE CASH ALLOWANCE. COORDINATE WITH ALL SECURITY WORK WITH OWNER.

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0	2024-OCT-24	ISSUED FOR 50% REVIEW



Engineer Logo

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Client

Drawing Overall Scale

AS SHOWN

Project Name & Address

TOMKEN TWIN ARENA
MECHANICAL AND VARIOUS BUILDING LIFECYCLE RENEWALS
4495 TOMKEN RD, MISSISSAUGA, ON L4W 1J9

Drawing Title

ELECTRICAL SERVICES
FIRST FLOOR - EXISTING/DEMOLITION

DATE: 16/09/2024

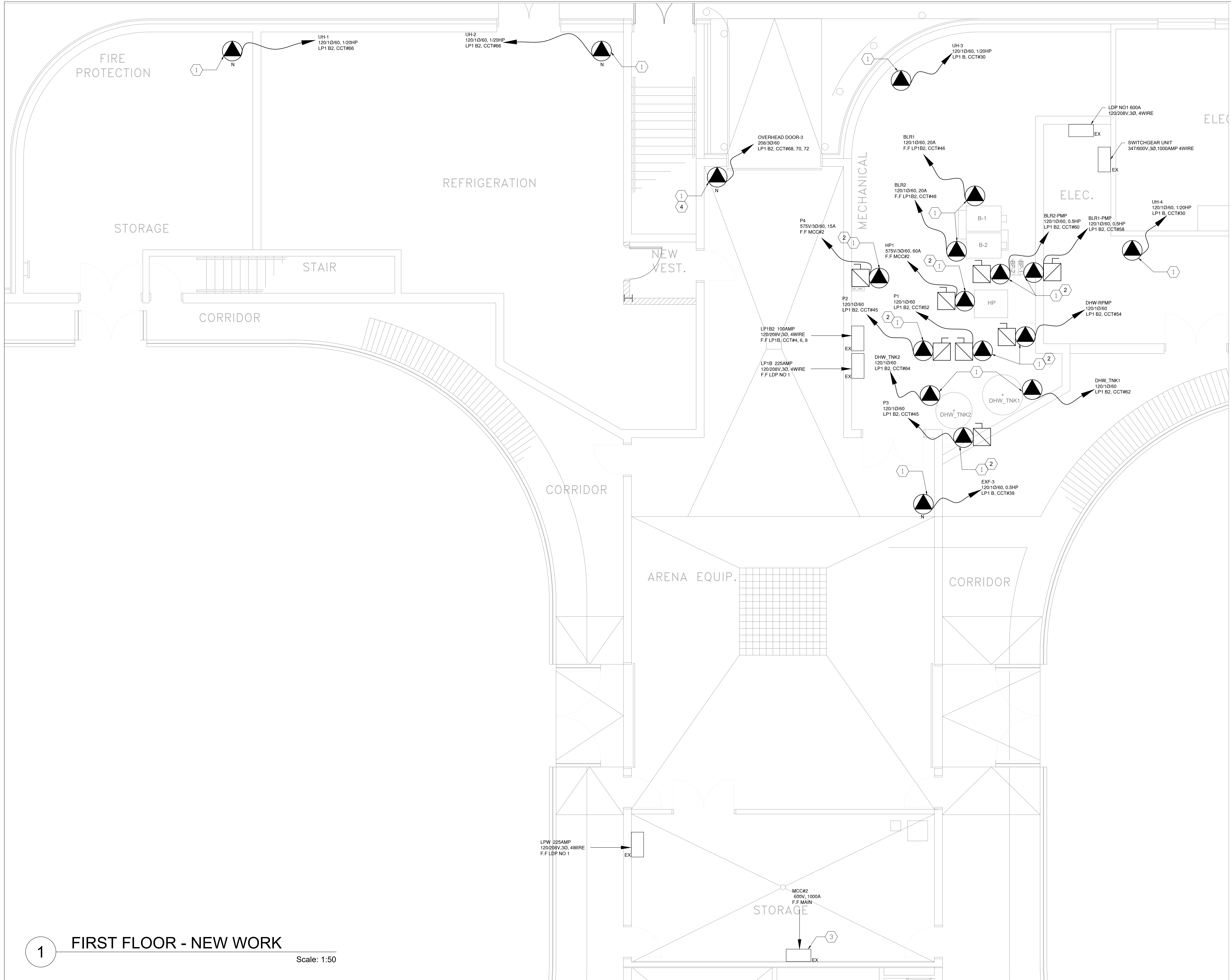
DESIGNED BY: F.A.

DRAWN BY: F.A.

APPROVED BY: J.E.

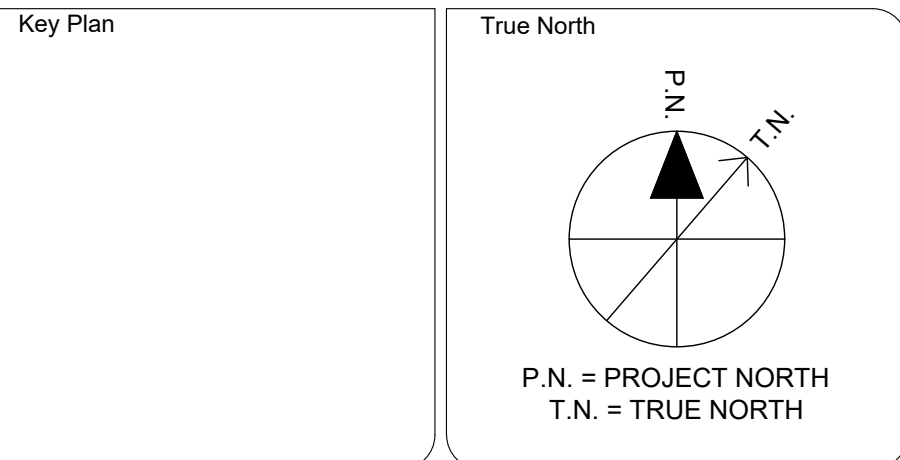
PROJECT NO.: 1024104

Engineer / Architect Stamp



- GENERAL NOTES:**
- ALL DEVICES SHOWN ARE NEW UNLESS NOTED OTHERWISE.
 - CONTRACTOR TO CONFIRM AND VERIFY THE EXACT LOCATION OF NEW EQUIPMENT ON SITE BASED ON THE EXISTING CONDITIONS.
- DESIGN NOTES (NEW WORK):**
- PROVIDE NEW POWER CONNECTION TO MECHANICAL EQUIPMENT PER IDENTIFIED EQUIPMENT TAG. REFER TO MECHANICAL EQUIPMENT WIRING SCHEDULE FOR FEEDER SIZE AND SOURCE.
 - PROVIDE NEW DISCONNECT SWITCH, COMBINATION STARTER WITH WIRE AND CONDUIT THAT MENTIONED ON THE NEW LAYOUT. LOCATION TO BE FINALIZED ON SITE.
 - PROVIDE NEW FUSE DISCONNECT SWITCH 1HP, 575V, 60A, 3PH, 4W. REFER TO MECHANICAL WIRING SCHEDULE IN THE MCC#2 LOCATED IN STORAGE/WORKSHOP. PROVIDE 4# 4WG-G IN 27mm.
 - DOOR CONTACTS TO BE RE-INSTALLED AFTER THE NEW DOOR OVERHEAD DOOR ARE IN PLACE BY THE OWNER'S SECURITY VENDOR OF RECORD AND PAID THROUGH THE CASH ALLOWANCE. COORDINATE WITH ALL SECURITY WORK WITH OWNER.

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Engineer Logo

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TEL: (416) 478-1158
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Client

MISSISSAUGA

Drawing Overall Scale

AS SHOWN

Project Name & Address

TOMKEN TWIN ARENA
MECHANICAL AND VARIOUS BUILDING LIFECYCLE RENEWALS
4495 TOMKEN RD, MISSISSAUGA, ON L4W 1J9

Drawing Title

ELECTRICAL SERVICES
FIRST FLOOR - NEW WORK

DATE: 16/09/2024

DESIGNED BY: F.A.

DRAWN BY: F.A.

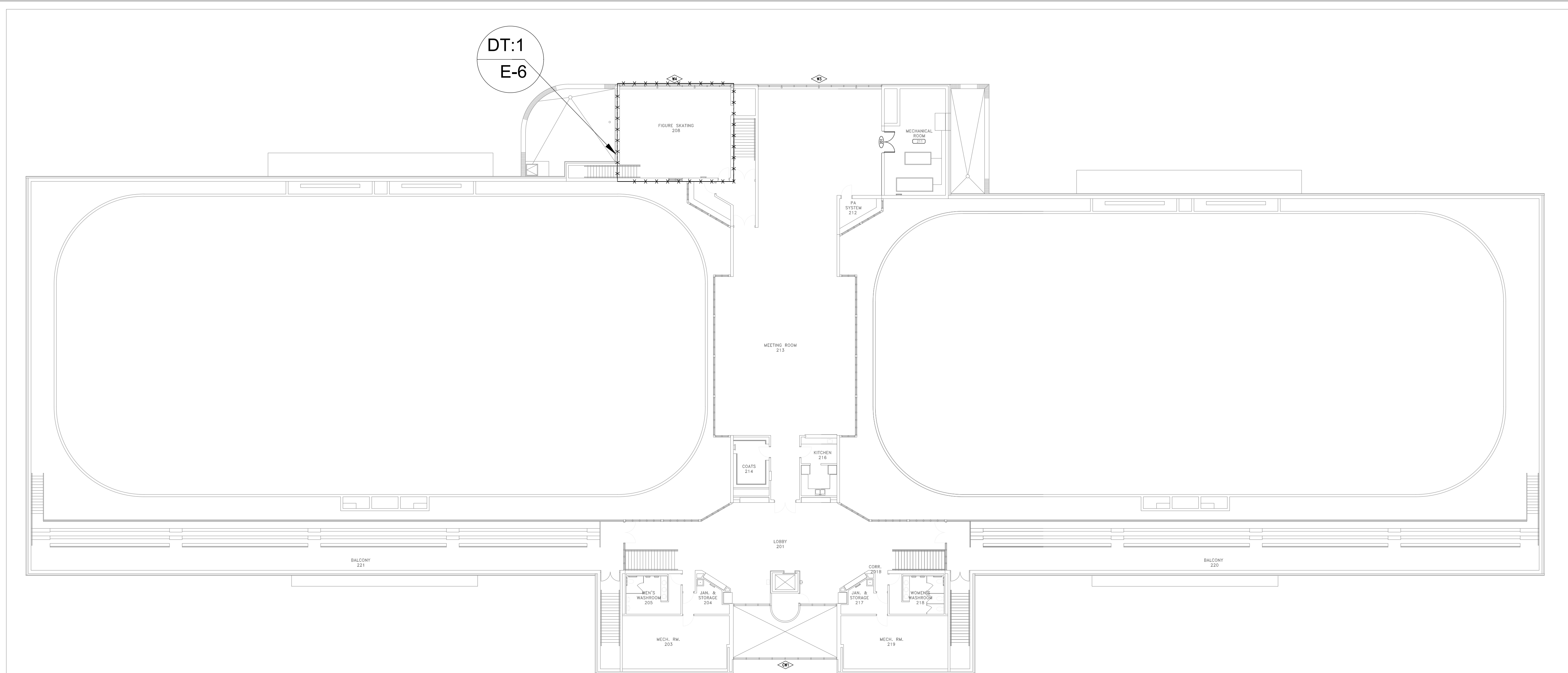
APPROVED BY: J.E.

PROJECT NO.: 1024104

Engineer / Architect Stamp

1 FIRST FLOOR - NEW WORK

Scale: 1:50



GENERAL NOTE:
 1. ELECTRICAL CONTRACTOR ALLOW TO COORDINATE WITH MECHANICAL CONTRACTOR TO REMOVE AND RELOCATE AND REINSTALL, ALL, ELECTRICAL DEVICES SUCH AS EMT PIPINGS AND POWER RECEPTACLES WITH NEW HEIGHT AS NEEDED.

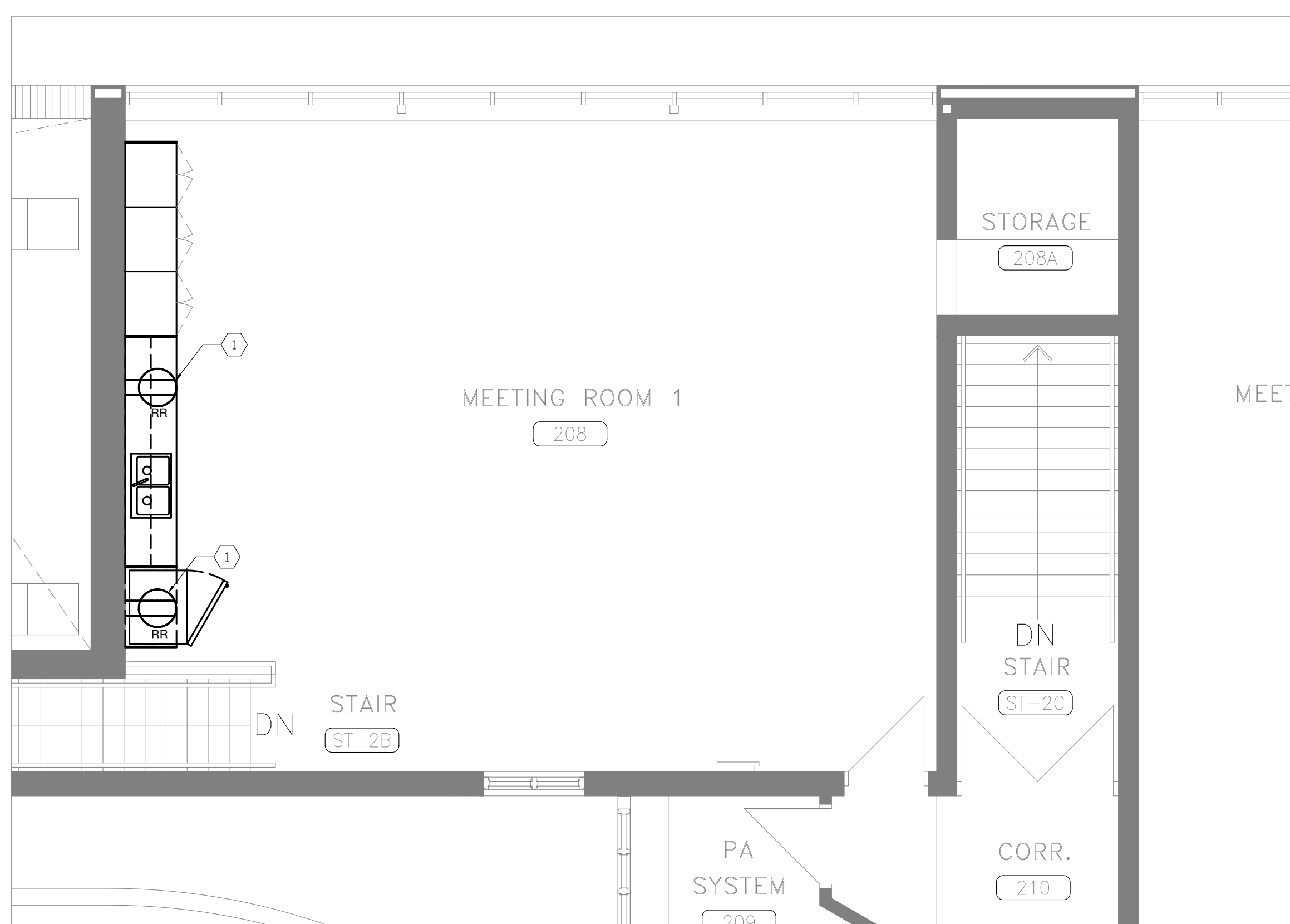
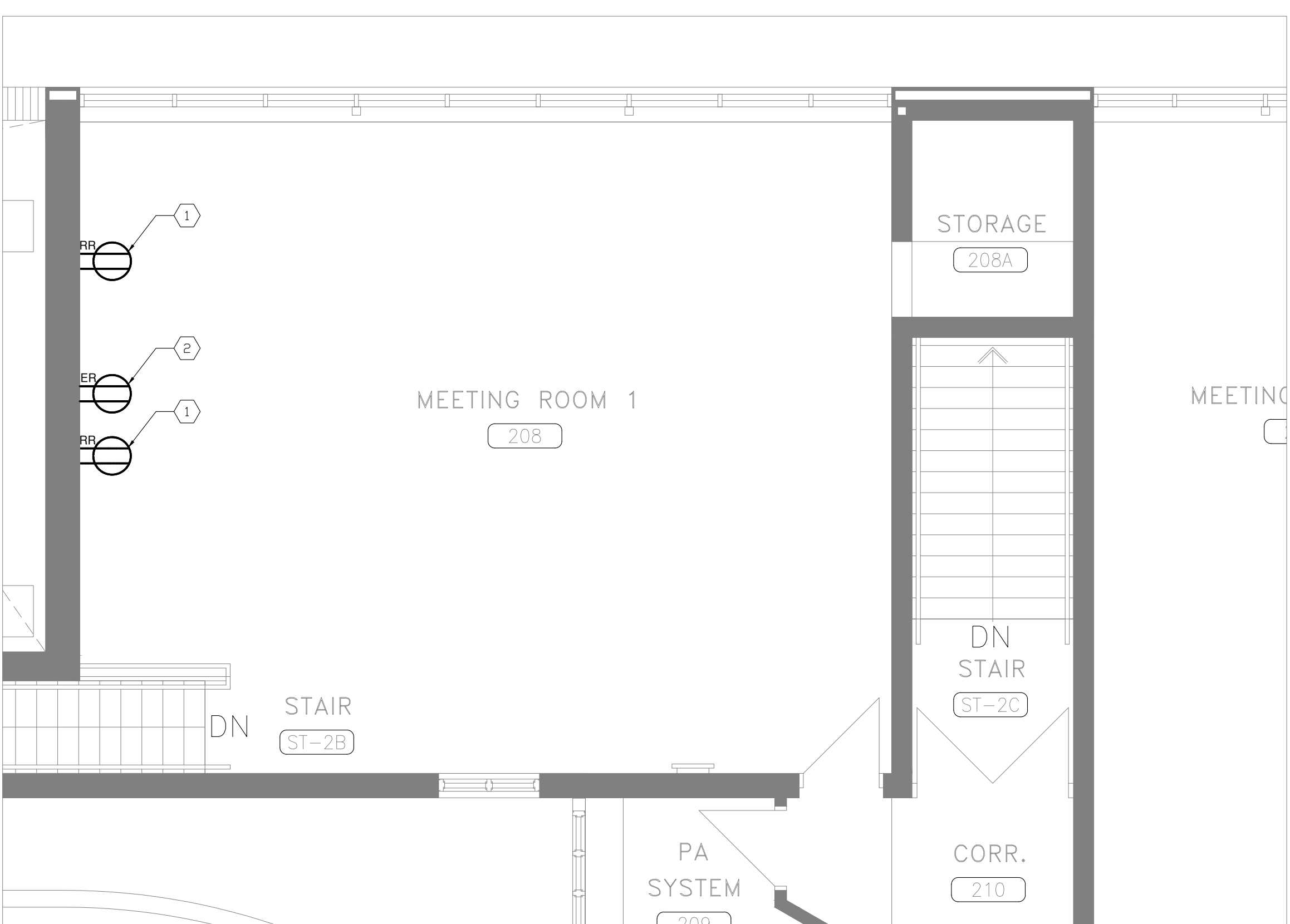
DESIGN NOTES (REPLACEMENT/DEMONEW WORK):

① EQUIPMENT/SERVICES TO BE RELOCATED. CONTRACTOR TO ALLOW RELOCATE ALL ELECTRICAL RECEPTACLES (INCLUDING CONDUIT AND WIRE) AS REQUIRED TO ACCOMMODATE INSTALLATION OF MECHANICAL EQUIPMENT. COORDINATE WITH MECHANICAL CONTRACTOR.

② REMOVE EXISTING L5-20R STOVE RECEPTACLE WIRE AND CONDUIT BACK TO SOURCE PANEL AND MAKE SAFE. ALLOW TO TRACE CIRCUIT BACK TO SOURCE.

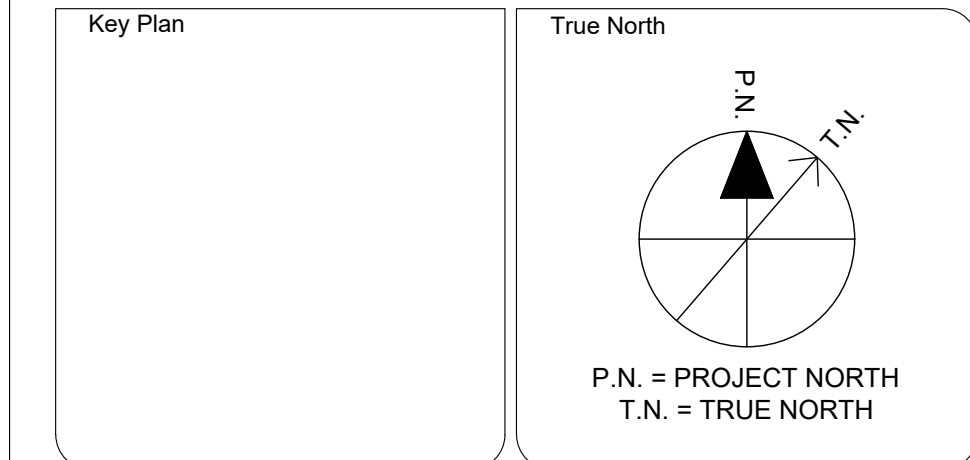
REV.	DATE	DESCRIPTION
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SECOND FLOOR - KEY PLAN
 Scale: NTS



1 SECOND FLOOR - ELECTRICAL REPLACE/DEMO
 Scale: 1:50

2 SECOND FLOOR - ELECTRICAL REPLACE/NEW WORK
 Scale: 1:50



Engineer Logo

 250 SHEPPARD AVE EAST, SUITE 606, TORONTO, ONTARIO, M2N 6M9
 TEL: (416) 478-5158
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Client

MISSISSAUGA

Drawing Overall Scale
 AS SHOWN

Project Name & Address
TOMKEN TWIN ARENA
 MECHANICAL AND VARIOUS BUILDING LIFECYCLE RENEWALS
 4495 TOMKEN RD, MISSISSAUGA, ON L4W 1J9

Drawing Title
ELECTRICAL SERVICES
 SECOND FLOOR - ELECTRICAL REPLACEMENT

DATE: 16/09/2024
 DESIGNED BY: F.A.
 DRAWN BY: F.A.
 APPROVED BY: J.E.
 PROJECT NO.: 1024104

Engineer / Architect Stamp

A. GENERAL NOTES

- DESIGN IS IN ACCORDANCE WITH THE ONTARIO BUILDING CODE 2012.
- THE GENERAL NOTES AND TYPICAL DETAILS ARE APPLICABLE TO ALL PARTS OF THE PROJECT AND SHALL BE READ IN CONJUNCTION WITH THE DRAWINGS AND SPECIFICATIONS.
- USE ONLY THE LATEST ISSUES OF ANY GOVERNMENT CODES, STANDARDS OR REGULATIONS MENTIONED IN THE FOLLOWING NOTES, UNLESS NOTED OTHERWISE.
- VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES TO THE CONSULTANT BEFORE PROCEEDING WITH THE WORK.
- FOR DETAILS AND DIMENSIONS NOT GIVEN ON STRUCTURAL DRAWINGS REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. VERIFY LOCATIONS AND DIMENSIONS OF ALL OPENINGS, PIPE SLEEVES, ETC. AS REQUIRED WITH THE MECHANICAL AND ELECTRICAL CONTRACTORS.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DIMENSIONS AND FOR COORDINATION OF SUB-TRADES.
- DO NOT SCALE THE DRAWINGS, USE FIGURE DIMENSIONS ONLY.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SAFEGUARD ALL EXISTING STRUCTURES AFFECTED BY THIS CONSTRUCTION. ON ANY NEW STRUCTURE, DO NOT EXCEED THE DESIGN LOADINGS INDICATED ON THESE DRAWINGS.
- ALL STRUCTURAL MEMBERS SHOWN ARE NEW UNLESS NOTED OTHERWISE.
- DRAWINGS AND DETAILS ARE INTENDED TO SHOW THE END RESULT OF DESIGN. MODIFICATIONS TO THE DESIGN NECESSARY TO SUIT SITE DIMENSIONS OR CONDITIONS SHALL BE SUBMITTED TO CONSULTANT FOR APPROVAL BEFORE PROCEEDING.
- THE SCHEDULING OF ALL WORK, INCLUDING ACCESSIBILITY AND LOGISTICS SHALL BE COORDINATED AND AGREED WITH THE OWNER PRIOR TO COMMENCEMENT.
- CO-ORDINATE WORK WITH MECHANICAL AND ELECTRICAL TRADES REGARDING ANY EXISTING MECHANICAL AND ELECTRICAL SERVICES ADJACENT TO THE WORK.
- DO NOT CUT THROUGH, CORE-DRILL OR OTHERWISE ALTER ANY EXISTING OR NEW PART OF THE STRUCTURE UNLESS SHOWN ON THE DRAWINGS, OR UNLESS APPROVED BY THE CONSULTANT. PROVIDE ADDITIONAL REINFORCING OR FRAMING AT OPENINGS AS SHOWN OR DIRECTED, PRIOR TO MAKING ANY OPENINGS.
- THE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF THE CONSULTANT AND MAY NOT BE REPRODUCED IN ANY FORM WITHOUT WRITTEN AUTHORIZATION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MONITORING EXISTING STRUCTURES ADJACENT TO NEW CONSTRUCTION AND AS OTHERWISE DIRECTED DURING ALL PHASES OF WORK.

B. CONCRETE

- ALL CONCRETE TO CONFORM TO THE REQUIREMENTS OF CSA STANDARD A23.1.
- ALL CONCRETE FORMWORK AND FALSEWORK TO CONFORM TO CSA-S269.1.
- ALL CONCRETE IS TO HAVE THE MINIMUM SPECIFIED 28 DAY COMPRESSIVE STRENGTH, WATER/CEMENTING MATERIALS RATIO, AND AIR CONTENT IN ACCORDANCE WITH THE REQUIREMENTS OF CSA STANDARD A23.1.
- ALL CONCRETE WHICH WILL BE SUBJECTED TO FREEZING AND THAWING OR SUBJECTED TO APPLICATIONS OF DE-ICING CHEMICALS IS TO HAVE THE 28 DAY COMPRESSIVE STRENGTH, WATER/CEMENTING MATERIALS RATIO, AND AIR CONTENT IN ACCORDANCE WITH THE REQUIREMENTS OF CSA STANDARD A23.1.
- ALL CONCRETE SHALL BE NORMAL DENSITY CONCRETE AND CONFORMING TO THE FOLLOWING UNLESS NOTED OTHERWISE:

LOCATION	EXPOSURE CLASS	28-DAY f'c (MPa)	MAX. AGGR. SIZE (mm)
EXTERIOR CONCRETE, UNLESS NOTED	C-1	35	20
INTERIOR CONCRETE, UNLESS NOTED	N	25	20
DRILLED CONCRETE PIERS	N	25	20
INTERIOR GRADE BEAMS	N	25	20
EXTERIOR GRADE BEAMS	F-2	32	20
SKIM SLAB	N	10	20
EXTERIOR EQUIPMENT PAD	C-1	35	20
FENCE FOUNDATIONS, DUCT BANKS, BOLLARDS, SIGNAGE	F-1	32	20

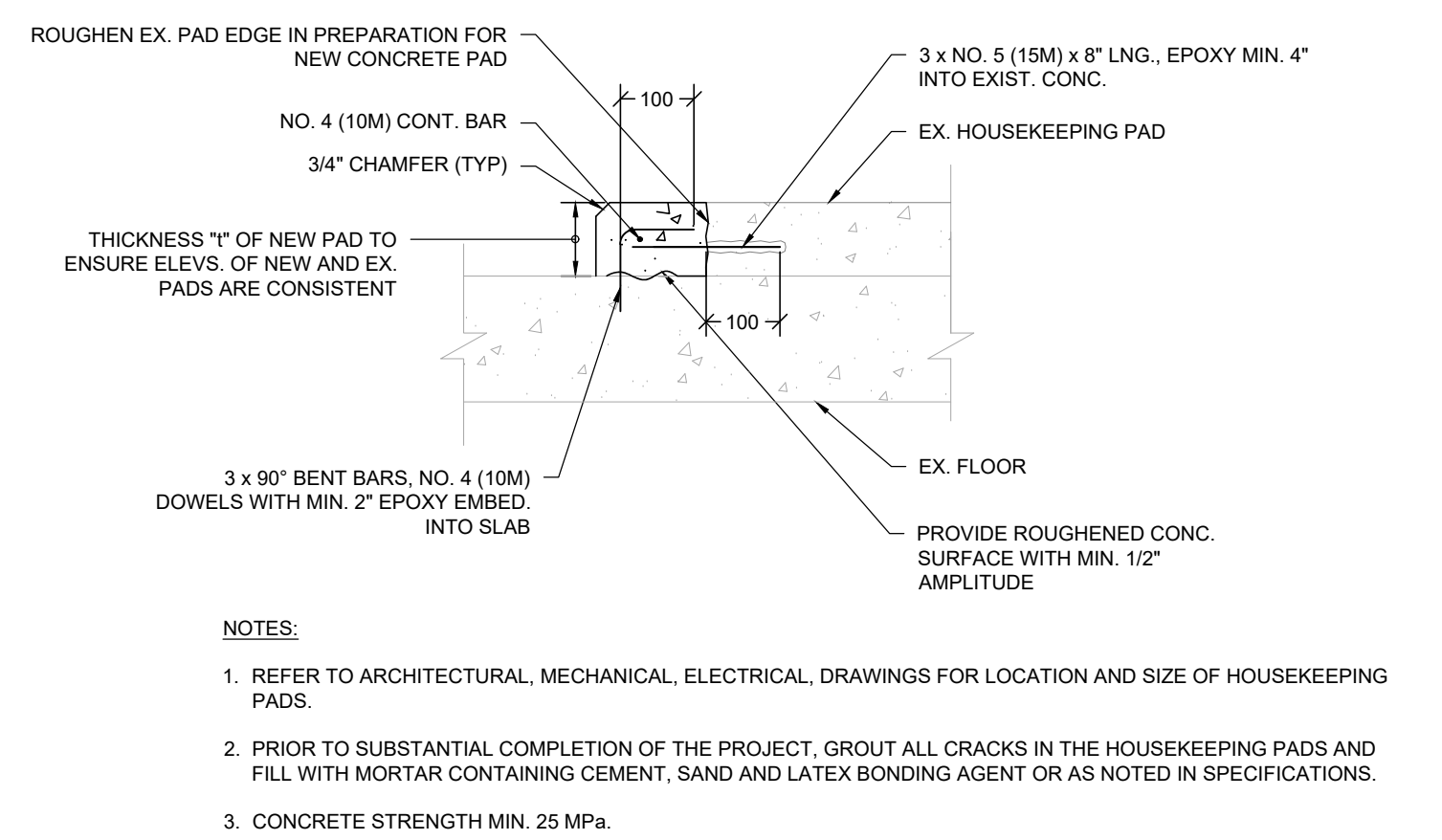
- ADDMIXTURES THAT CONTAIN CHLORIDES SHALL NOT BE USED.

- UNLESS NOTED OTHERWISE, PROVIDE THE FOLLOWING CLEAR CONCRETE COVER FOR REINFORCING STEEL:

LOCATION	SPECIFIED COVER (mm)
CONCRETE CAST AGAINST EARTH	75
CONCRETE ON SKIM SLAB	50
INTERIOR SLAB ON GRADE*	50
FORMED SLABS AND WALLS NOT EXPOSED TO EARTH OR WEATHER	25
FORMED SLABS EXPOSED TO WEATHER	40
FORMED PIERS, BEAMS AND COLUMNS NOT EXPOSED TO EARTH OR WEATHER	40
FORMED WALLS EXPOSED TO WEATHER	50
TOP OF SLAB ON GRADE TO WELDED WIRE MESH	50
TOP OF SLAB ON STEEL DECK / EXPOSED TO WEATHER	25 / 40

- PROVIDE 1"x1" CHAMFER AT ALL EXPOSED CORNERS UNLESS OTHERWISE NOTED.
- ALL OPENINGS SHALL BE FORMED OR SLEEVED PRIOR TO PLACING CONCRETE.

1 GENERAL NOTES AND SPECIFICATIONS



3 EXTENSION OF EX. HOUSEKEEPING PAD

SCALE: 1:10

C. REINFORCING STEEL

- CONFORM TO THE REQUIREMENTS OF CSA STANDARDS A23.1 AND A23.3.
- REINFORCING STEEL SHALL BE DEFORMED BAR CONFORMING TO CSA STANDARD G30.18, GRADE 400R, UNO. REINFORCING STEEL SPECIFIED TO BE WELDED SHALL CONFORM TO CSA STANDARD G30.18, GRADE 400W, UNO.
- BAR MARKS WITH PREFIX 'S' DENOTES STAINLESS STEEL BARS.
- BAR MARKS WITH PREFIX 'C' DENOTED EPOXY-COATED STEEL BARS.
- WELDED WIRE FABRIC SHALL HAVE A MINIMUM YIELD STRENGTH OF 450 MPa AND SHALL CONFORM TO ASTM A185. SUPPLY IN FLAT SHEETS ONLY.
- REINFORCING STEEL IS TO BE DETAILED AND BENT AS OUTLINED IN THE REINFORCING STEEL MANUAL OF STANDARD PRACTICE PUBLISHED BY THE REINFORCING STEEL INSTITUTE OF CANADA.
- SUBMIT SHOP DRAWINGS SHOWING PLACEMENT AND DETAILS OF ALL REINFORCING STEEL. DRAW ALL WALLS IN FULL ELEVATION, AND SLABS WITH TOP AND BOTTOM BARS ON SEPARATE PLANS.
- DO NOT FIELD-CUT OR FIELD-BEND BARS WITHOUT CONSULTANT'S APPROVAL.
- PROVIDE CHAIRS, SPACER BARS, SUPPORT BARS AND OTHER ACCESSORIES TO SUPPORT REINFORCING IN ACCORDANCE WITH A23.1 AND A23.3. ALL THE WIRE, CHAIRS AND BAR SUPPORTS FOR FOUNDATIONS AND FOR EXPOSED CONCRETE SHALL BE NON-METALLIC OR COATED.
- PROVIDE CLASS 'B' TENSION LAP SPLICES UNLESS NOTED OTHERWISE. ALL SPLICE LOCATIONS SHALL BE TO THE APPROVAL OF THE CONSULTANT.
- LAP SPLICES IN WELDED WIRE MESH SHALL NOT BE LESS THAN 200 mm, AS MEASURED BETWEEN THE OUTERMOST CROSS-WIRES OF EACH FABRIC SHEET.
- BAR LAPS IN REINFORCED MASONRY TO BE NOT LESS THAN 40 BAR DIAMETERS, AND SHALL BE LOCATED AT FLOOR LEVELS ONLY.
- DOWELS TO EXISTING CONCRETE SHALL USE THE HILTI "RE500" DOWELING SYSTEM. COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
- PROVIDE ONE 15M NOSING BAR FOR ALL SILL, LEDGES, AND STEPS, UNLESS NOTED OTHERWISE.
- PROVIDE ONE CONTINUOUS 15M TOP AND BOTTOM REINFORCING BARS AT ALL EDGES OF SLABS. THIS REINFORCING MAY BE PROVIDED BY MODIFYING THE BARS SHOWN ON PLAN OR SCHEDULE, OR BY PROVIDING ADDITIONAL REINFORCING.
- PROVIDE MINIMUM 2-20M VERTICAL AT EACH END, TEE AND CORNER OF ALL REINFORCED CONCRETE WALLS UNO.
- REINFORCING STEEL IN MASONRY BOND BEAMS AND LINTELS SHALL BE MIN. 15M BARS CONTINUOUS (WITHOUT SPLICES). PROVIDE STANDARD HOOKS AT BOTH ENDS TO BARS IN MASONRY LINTELS. PROVIDE 90-DEGREE 'L-BARS' AT CORNERS IN MASONRY BOND BEAMS, WITH LAPS OF 40 BAR DIAMETERS.

D. SHOP DRAWINGS AND SUBMITTALS

- SUBMIT SHOP DRAWINGS TO CONSULTANT FOR REVIEW BEFORE COMMENCING FABRICATION. ALLOW 7 DAYS FOR RETURN OF SHOP DRAWINGS.
- SHOP DRAWINGS FOR CONCRETE REINFORCEMENT AND PLACEMENT SHALL BE SUFFICIENTLY DETAILED AND DIMENSIONED TO PERMIT CORRECT PLACEMENT OF REINFORCEMENT AND ACCESSORIES WITHOUT REFERENCE TO ARCHITECTURAL AND STRUCTURAL DRAWINGS.
- NOTIFY CONSULTANT IN WRITING AT TIME OF SUBMISSION OF ANY DEVIATIONS IN SHOP DRAWINGS FROM REQUIREMENTS OF CONTRACT DOCUMENTS.
- CONFIRM CONTRACTOR'S REVIEW OF EACH SHOP DRAWING BY STAMP, DATE AND SIGNATURE OF A RESPONSIBLE PERSON.

E. DEMOLITION AND REWORK

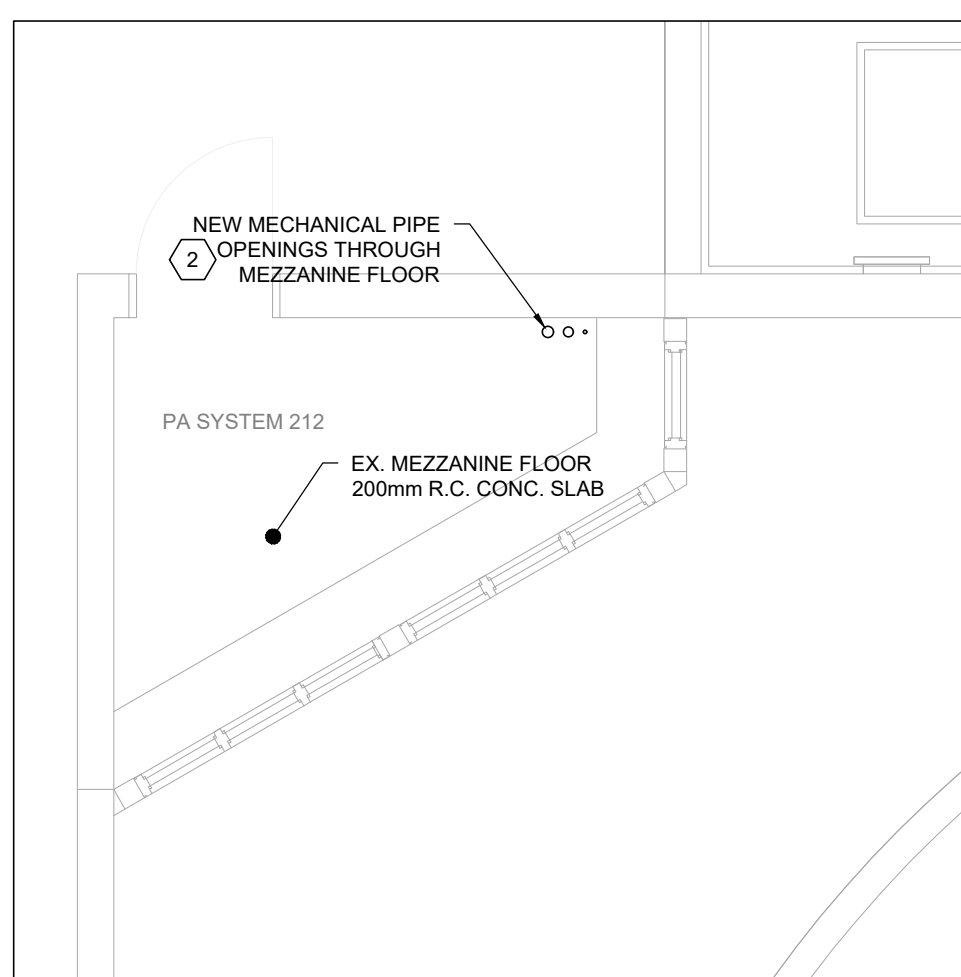
- ENSURE THAT EXISTING AND NEW STRUCTURE IS AT ALL TIMES MAINTAINED IN A SAFE CONDITION AND THAT THE PUBLIC IS PROTECTED FROM DEMOLITION ACTIVITIES.
- DESIGN AND PROVIDE ALL REQUIRED SHORING OR TEMPORARY FALSEWORK REQUIRED FOR SUPPORT OF EXISTING STRUCTURE DURING DEMOLITION REWORK OR INSTALLATION ACTIVITIES. BEFORE UNDERTAKING WORK, SUBMIT TO CONSULTANT FOR REVIEW DRAWING(S) BEARING THE SEAL OF THE LICENSED PROFESSIONAL ENGINEER RESPONSIBLE FOR DESIGN. CONTRACTOR'S ENGINEER IS THE ENGINEER OF RECORD FOR TEMPORARY SHORING AND FALSEWORK. CONSULTANT'S REVIEW OF DRAWING(S) IS ONLY ON THE OWNER'S BEHALF TO ENSURE COMPLIANCE WITH CONTRACT REQUIREMENTS. REFER TO SPECIFICATIONS.

F. TESTING AND INSPECTION

- WHERE APPLICABLE AS PER AGREEMENT, THE CONTRACTOR SHALL ARRANGE AND PAY FOR THE FOLLOWING ITEMS TO BE INSPECTED OR TESTED BY AN INDEPENDENT THIRD-PARTY INSPECTION/TESTING AGENCY ACCEPTABLE TO THE OWNER AND THE CONSULTANT. COPIES OF ALL TEST REPORTS SHALL BE FORWARDED TO THE OWNER AND CONSULTANT ON THE SAME DAY TESTS ARE MADE. THE ITEMS TO BE TESTED SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:
 - GEOTECHNICAL:** PERFORM ALL TESTING AND INSPECTION (COMPACTION, BEARING CAPACITY, SOIL PREPARATION ETC.) AS PER THE REQUIREMENTS OF THE DRAWINGS AND THE GEOTECHNICAL ENGINEERING REPORT.
 - CONCRETE:** CONCRETE TO BE TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF CSA A23.1 AND A23.2, INCLUDING THE REQUIREMENTS FOR AIR, SLUMP AND AGE PRIOR TO BEING USED. CONTRACTOR TO MAINTAIN RECORDS OF POUR DATES, TESTING PERFORMED, CLASS OF CONCRETE USED AND TEST RESULTS FOR ALL ITEMS PLACED. RESULTS OF CYLINDER STRENGTH TESTING TO BE SENT TO OWNER AND CONSULTANT. ALL MIX DESIGNS TO BE REVIEWED AND APPROVED BY TESTING AGENCY.
 - MASONRY:** MORTAR, GROUT AND CONCRETE MASONRY UNITS: SAMPLE AND TEST JOB-MIXED MORTARS IN ACCORDANCE WITH CSA A179 AND CSA S304.1. TEST FREQUENCY TO BE IN ACCORDANCE WITH S304.1, BUT NOT LESS THAN ONE TEST FOR EACH DAY OF WORK. CONTRACTOR TO SUBMIT LABORATORY TEST REPORTS OF MANUFACTURER FOR CONCRETE MASONRY UNITS.
 - STRUCTURAL STEEL AND JOISTS:** PERFORM VISUAL INSPECTION OF ALL WELDS. TORQUE TESTING OF BOLTED CONNECTIONS AND CHECK ON BEARING, PLUMBNESS, ALIGNMENT AND PAINTING. BASIS OF INSPECTION SHALL BE FINAL REVIEWED SHOP DRAWINGS. PERFORM NON-DESTRUCTIVE TESTING OF WELDS WHERE RESULTS OF VISUAL INSPECTION ARE NOT ACCEPTABLE OR INCONCLUSIVE.
- REINFORCING STEEL:** CONTRACTOR SHALL ADVISE CONSULTANT OF PLACEMENT OF ALL REINFORCING STEEL FOR REINFORCED MASONRY AND REINFORCED CONCRETE, AT LEAST 24 HOURS PRIOR TO PLANNED TIME OF MASONRY GROUT OR CONCRETE PLACEMENT. DO NOT PLACE GROUT OR CONCRETE UNTIL BAR PLACEMENT HAS BEEN APPROVED BY CONSULTANT.

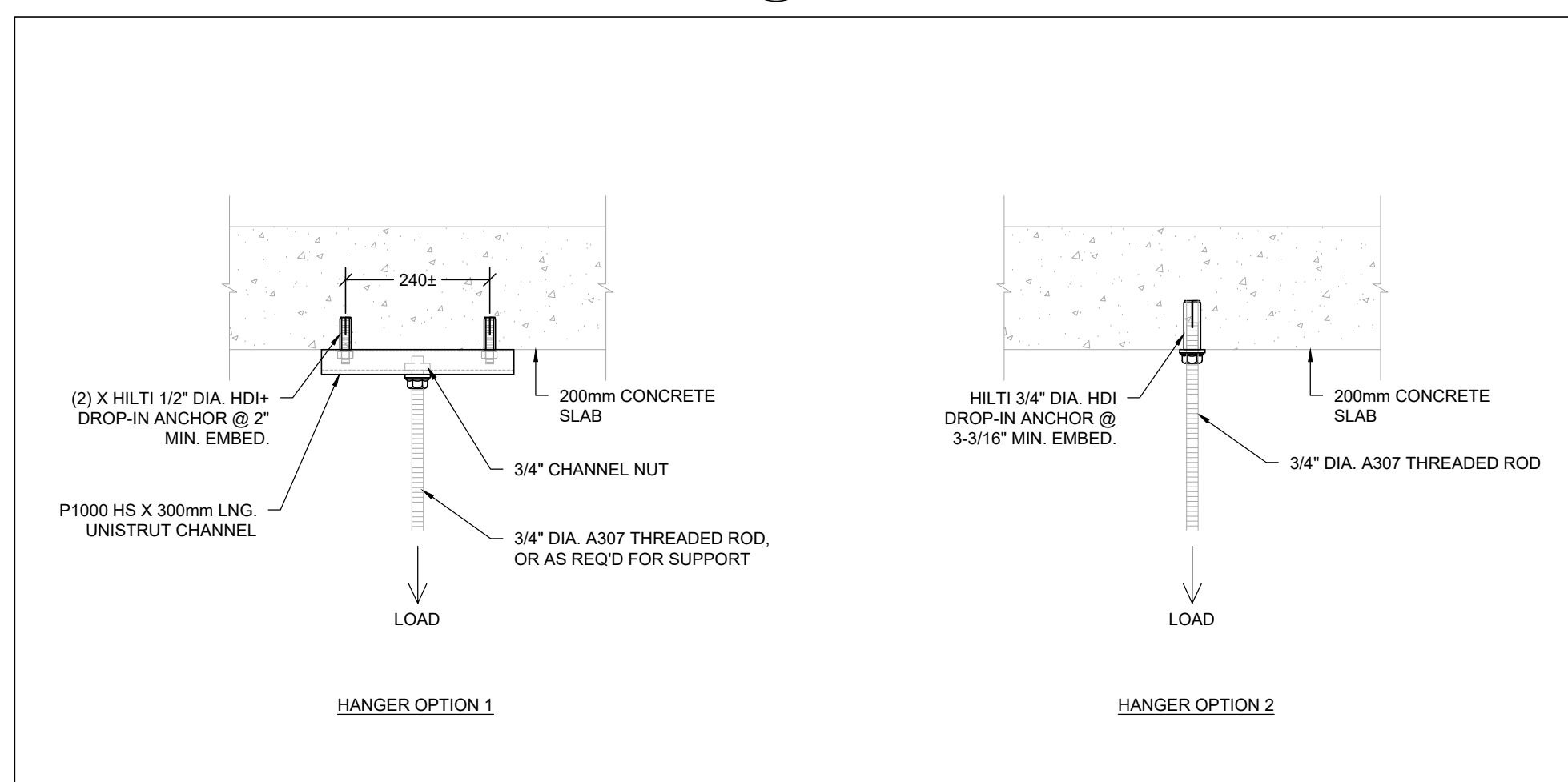
4 PARTIAL MEZZANINE FLR. PLAN

SCALE: 1:50



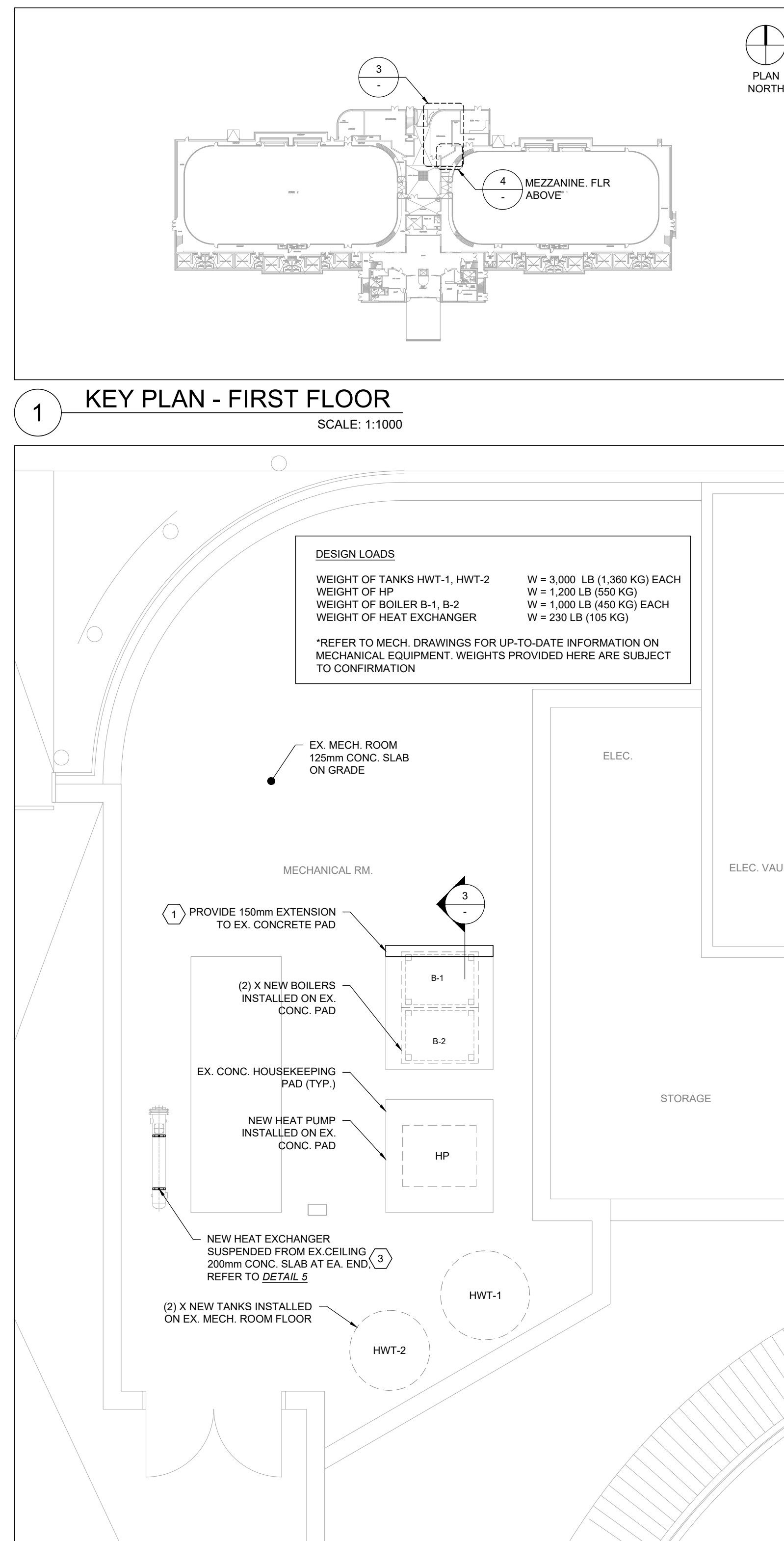
5 HANGER DETAIL

SCALE: 1:10



2 PARTIAL 1ST FLOOR PLAN - MECHANICAL ROOM

SCALE: 1:50



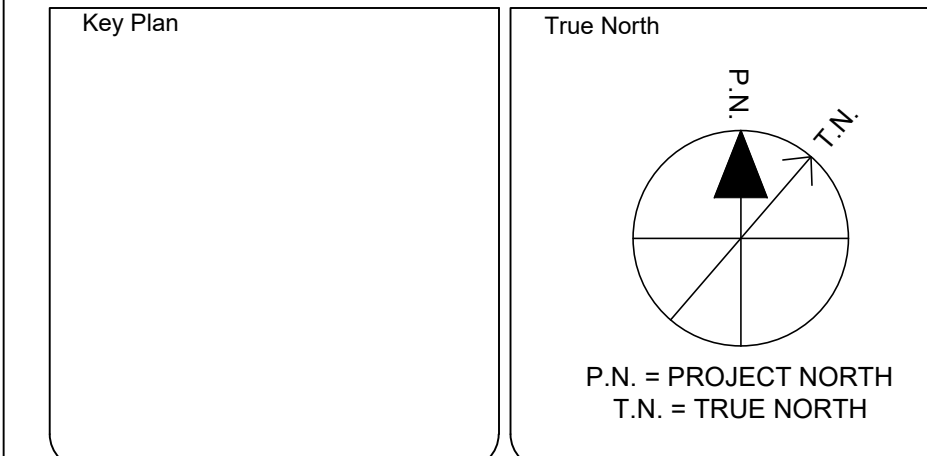
GENERAL NOTES

- CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING POSSIBLE INTERFERENCES SHOULD ANY DISCREPANCIES APPEAR BETWEEN THE DRAWINGS AND SPECIFICATIONS WHICH LEAVE THE CONTRACTOR IN DOUBT AS TO THE TRUE INTENT AND MEANING OF THE PLANS AND SPECIFICATIONS. THE CONTRACTOR SHALL OBTAIN A RULING FROM THE CONSULTANT IN WRITING BEFORE SUBMITTING A TENDER. IF THIS IS NOT DONE IT WILL BE ASSUMED THAT THE MOST EXPENSIVE ALTERNATIVE HAS BEEN INCLUDED IN THE TENDER PRICE. FOR ANY RULING TO BECOME BINDING, THE CONSULTANT MUST ISSUE THE NEW DIRECTION IN A PUBLISHED FORM.
- CONTRACTOR TO INCLUDE IN TENDER PRICE ALL COSTS ASSOCIATED WITH REMOVAL AND REINSTATEMENT OF EXISTING CEILING PANELS, DRYWALL, LIGHTING OR OTHER FIXTURES AS REQUIRED TO COMPLETE THE WORK SHOWN HEREIN. ALL MATERIALS REMOVED SHALL BE RESTORED TO THE ORIGINAL CONDITION UPON COMPLETION OF THE WORK UNLESS NOTED OTHERWISE.

DESIGN NOTES

- DIMENSIONS OF SHORT CONCRETE PAD EXTENSION IS SUBJECT TO CONFIRMATION WITH MECHANICAL DRAWINGS AND FINAL DIMENSIONS OF MECHANICAL EQUIPMENT. CONFIRM ALL DIMENSIONS TO DETERMINE IF THE CONCRETE PAD EXTENSION IS REQUIRED.
- SPREAD MULTIPLE PENETRATIONS AS FAR APART AS POSSIBLE. DO NOT CUT OPENINGS LARGER THAN 8" IN DIAMETER. PROVIDE MINIMUM CLEAR SPACING BETWEEN OPENINGS AT LEAST EQUAL TO THE LARGER DIAMETER OF THE ADJACENT OPENINGS. CHECK FOR ANY EMBEDDED ELEMENTS IN SLAB PRIOR TO DRILLING. OTHER METHODS OF FLOOR PENETRATION MAY BE USED WITH CONSULTANT'S APPROVAL.
- PROVIDE MINIMUM (2) SUPPORTS FOR SUSPENDED THE HEAT EXCHANGER, ONE AT EACH END OF EQUIPMENT. USING CLEVIS HANGERS OR OTHER CONSULTANT APPROVED METHOD. REFER TO DETAIL 5 FOR HANGER DETAILS. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATION OF HEAT EXCHANGER.

REV.	DATE	DESCRIPTION
2	2024-DEC-11	RE-ISSUED FOR TENDER
1	2024-DEC-03	ISSUED FOR TENDER
0	2024-NOV-18	ISSUED FOR 90% REVIEW



Engineer Logo

 250 SHEPPARD AVE EAST, SUITE 306, TORONTO, ONTARIO, M2N 6M9
 TEL. (416) 478-9158
 FAX (416) 478-9917

Client

Drawing Overall Scale
 AS SHOWN

Project Name & Address
TOMKEN TWIN ARENA
 MECHANICAL AND VARIOUS BUILDING LIFECYCLE RENEWALS
 4495 TOMKEN RD., MISSISSAUGA, ON L4W 1J9

Drawing Title
STRUCTURAL SERVICES
 GENERAL NOTES AND SPECIFICATIONS
 KEY PLAN AND DETAILS

DATE: 2024-NOV-15
 DESIGNED BY: E. FLORES
 DRAWN BY: E. FLORES
 APPROVED BY: D. HUM
 PROJECT NO.: 1024104

Engineer / Architect Stamp

ARCHITECTURAL SPECIFICATIONS:

GENERAL: THE CONSTRUCTOR SHALL SITE VERIFY ALL DIMENSIONS ON DRAWINGS AND REPORT ANY DISCREPANCIES PRIOR TO PROCEEDING WITH THE WORK...

ALL PRODUCTS AND ASSEMBLIES SHALL BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

UNLESS NOTED OTHERWISE IN THE CONTRACT DOCUMENTS, THE CONSTRUCTOR SHALL PROVIDE A MINIMUM ONE YEAR WARRANTY ON ALL WORK WHEREIN...

THE CONSTRUCTOR SHALL OBTAIN AND REVIEW ALL OWNER REQUIREMENTS FOR WORKING IN THE BUILDING AND SHALL BE RESPONSIBLE TO ENSURE THAT ALL WORK IS PERFORMED IN ACCORDANCE WITH THESE REQUIREMENTS.

ALL SHOP DRAWINGS FOR METAL FABRICATIONS, GLASS GUARDS AND/OR ANY WORK FOR STAIRS OR RAMPS SHALL BE SUBMITTED BY A LICENSED STRUCTURAL ENGINEER...

DEMOLITION: THE TERMS "DEMOLISH", "DEMO" AND "REMOVE" SHALL BE UNDERSTOOD AS SYNONYMOUS AND MEANING TO DISMANTLE AND REMOVE THE ITEM FROM SITE...

DEMOLISH ALL PARTITIONS, FINISHES, MILLWORK, GLASS PANELS AND EQUIPMENT RELATED TO THE EXISTING TENANT SPACE.

REFER TO MECHANICAL DRAWINGS FOR ALL MECHANICAL, PLUMBING, PLUMBING FIXTURES & SPRINKLERS TO BE REMOVED AND/OR RELOCATED.

REFER TO ELECTRICAL DRAWINGS FOR ALL ELECTRICAL EQUIPMENT, FIXTURES AND LIGHTING TO BE REMOVED AND/OR RELOCATED.

REFER TO STRUCTURAL DRAWINGS FOR ANY EXISTING STRUCTURAL WORK TO BE DEMOLISHED.

WHERE NEW MECHANICAL, ELECTRICAL OR OTHER WORK IS TO PENETRATE STRUCTURE, PROVIDE FOR SCANNING, CUTTING AND CORING OF CONCRETE STRUCTURE...

WHERE STRUCTURAL, MECHANICAL, ELECTRICAL OR OTHER WORK REQUIRES DEMOLITION OF EXISTING ARCHITECTURAL WORK, CONTRACTOR IS TO INCLUDE THIS WORK IN THEIR TENDER PRICE...

(1) FIRE RESISTANCE RATING OF THE ADJACENT ASSEMBLY AND (2) BASE BUILDING, LANDLORD REQUIREMENTS. AT A MINIMUM, VOIDS SHALL BE FILLED WITH ROXUL SAFE FIRE-RETARDANT INSULATION...

WHERE CONDUIT, PLUMBING OR OTHER ITEMS ARE REMOVED FROM A RATED ASSEMBLY, THE REMAINING VOID SHALL BE FILLED TO MEET THE FIRE RESISTANCE RATING OF THE ADJACENT ASSEMBLY.

PRIOR TO TENDER, CONTRACTORS SHALL WALK THROUGH THE ENTIRE SPACE AND SHALL, BY SUBMISSION OF THEIR BID, CONFIRM THEIR RESPONSIBILITY TO DEMOLISH ALL ITEMS TO BE REMOVED...

MILLWORK: MILLWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH LATEST AWMAC STANDARDS.

- UNLESS NOTED OTHERWISE ALL MILLWORK SHALL BE AS FOLLOWS: 1. ALL PANELS SHALL BE 3/4" CHIP-BOARD, FINISHED BOTH SIDES...

DOORS, FRAMES & HARDWARE: WOOD DOORS SHALL BE 1-3/4" THICK SOLID WOOD. HOLLOW METAL DOORS SHALL BE MIN. 18 GAUGE GALVANIZED METAL...

ALL DOORS LOCATED IN A FIRE SEPARATION (INCLUDING THOSE WITH A ZERO RATING) SHALL BE EQUIPPED WITH A CLOSER, AIR SEAL GASKET AND POSITIVE-LATCHING HARDWARE.

FIRE-RATED DOORS TO BE PROVIDED WITH TEMPERATURE RISE LIMIT RATING AND LABELED AS REQUIRED BY LOCAL BUILDING CODE.

GLASS & GLAZING: 1/4" CLEAR TEMPERED GLASS TO BE PROVIDED WHERE GLASS IS SPECIFIED TO BE PROVIDED IN A DOOR OR SIDELITE...

UNLESS NOTED OTHERWISE, INSULATED GLASS UNITS SHALL BE DOUBLE-GLAZED UNITS, 1" THICK WITH TWO 1/2" CLEAR GLASS PANELS AND 1/2" ARGON-FILLED, SEALED COMPARTMENT BETWEEN...

GYPSUM BOARD: INSTALLATION OF GYPSUM BOARD SYSTEMS SHALL BE IN ACCORDANCE WITH GOOD PRACTICE STANDARDS AS DESCRIBED IN "THE GYPSUM CONSTRUCTION HANDBOOK," LATEST EDITION...

FINISHES: ALL INTERIOR FINISHES SHALL HAVE FLAME SPREAD RATING NOT EXCEEDING 150.

PAINT: UNLESS NOTED OTHERWISE, WALL PAINT SHALL BE IN EGGSHELL FINISH, DOORS AND FRAMES SHALL BE ACRYLIC LATEX SEMI-GLOSS FINISH, CEILING SHALL BE FLAT LATEX FINISH...

ALL PAINT SHALL BE LOW V.O.C. RATED FINAL PAINT TOUCH-UPS SHALL BE PROVIDED AFTER TENANT HAS MOVED INTO PREMISES. TOUCH-UPS SHALL INCLUDE MINOR DRYWALL REPAIR AND PAINT TO REPAIR NOTED DAMAGE AND/OR MARKS...

FLOORING: UNLESS NOTED OTHERWISE, PROVIDE TRANSITION STRIPS OF REQ'D THICKNESS WHERE FLOORING FINISHES END OR ARE DISSIMILAR. TRANSITION STRIPS FOR VINYL, RUBBER, LINOLEUM...

SEALANT: SEALANT SHALL BE PROVIDED IN ANY LOCATION WHERE TWO OR MORE DISSIMILAR MATERIALS ARE JOINED. PROVIDE PAINTABLE SEALANT WHERE ADJACENT MATERIALS ARE PAINTED...

MECHANICAL COORDINATION: REFER TO MECHANICAL DRAWINGS FOR ALL SPECIFIC INFORMATION. UNLESS SPECIFICALLY NOTED OTHERWISE, ALL MECHANICAL CONTROLS SHALL BE ALIGNED WITH ONE ANOTHER AND LOCATED 43" (1100 mm) ABOVE FLOOR TO THE CENTER OF THE CONTROLLER...

ELECTRICAL COORDINATION: REFER TO ELECTRICAL DRAWINGS FOR ALL SPECIFIC INFORMATION. UNLESS SPECIFICALLY NOTED OTHERWISE, ALL ELECTRICAL SWITCHES SHALL BE ALIGNED WITH ONE ANOTHER AND LOCATED 43" (1100 mm) ABOVE FLOOR TO THE CENTER OF THE ELECTRICAL BOX...

ALL ELECTRICAL FIXTURES, CONTROLS, ETC. SHALL BE ALIGNED AND INSTALLED LEVEL AND TRUE. IN OFFICES, JUNCTION BOXES FOR POWER AND DATA SHALL BE INSTALLED SO THAT THE TOP OF JUNCTION BOX IS 12" ABOVE THE FLOOR...

ALL MECHANICAL GRILLS, DIFFUSERS, ETC. SHALL BE ALIGNED AND INSTALLED LEVEL AND TRUE. UNLESS SPECIFICALLY NOTED OTHERWISE, ALL MECHANICAL CONTROLS SHALL BE ALIGNED WITH ONE ANOTHER AND LOCATED 43" (1100 mm) ABOVE FLOOR TO THE CENTER OF THE CONTROLLER...

ROOM FINISH SCHEDULE table with columns: ROOM #, ROOM DESCRIPTION, FLOOR, BASE, CEILING, WALL FINISH (NORTH, EAST, SOUTH, WEST), NOTES

ROOM FINISH LEGEND table with columns: TAG, SUPPLIER/MANUFACTURER, PRODUCT SERIES, SIZE, COLOUR, FINISH, PRODUCT #, INSTALLATION, OTHER/NOTES

NOTE: REFER TO EQUIPMENT LIST FOR APPROPRIATE EQUIVALENTS.

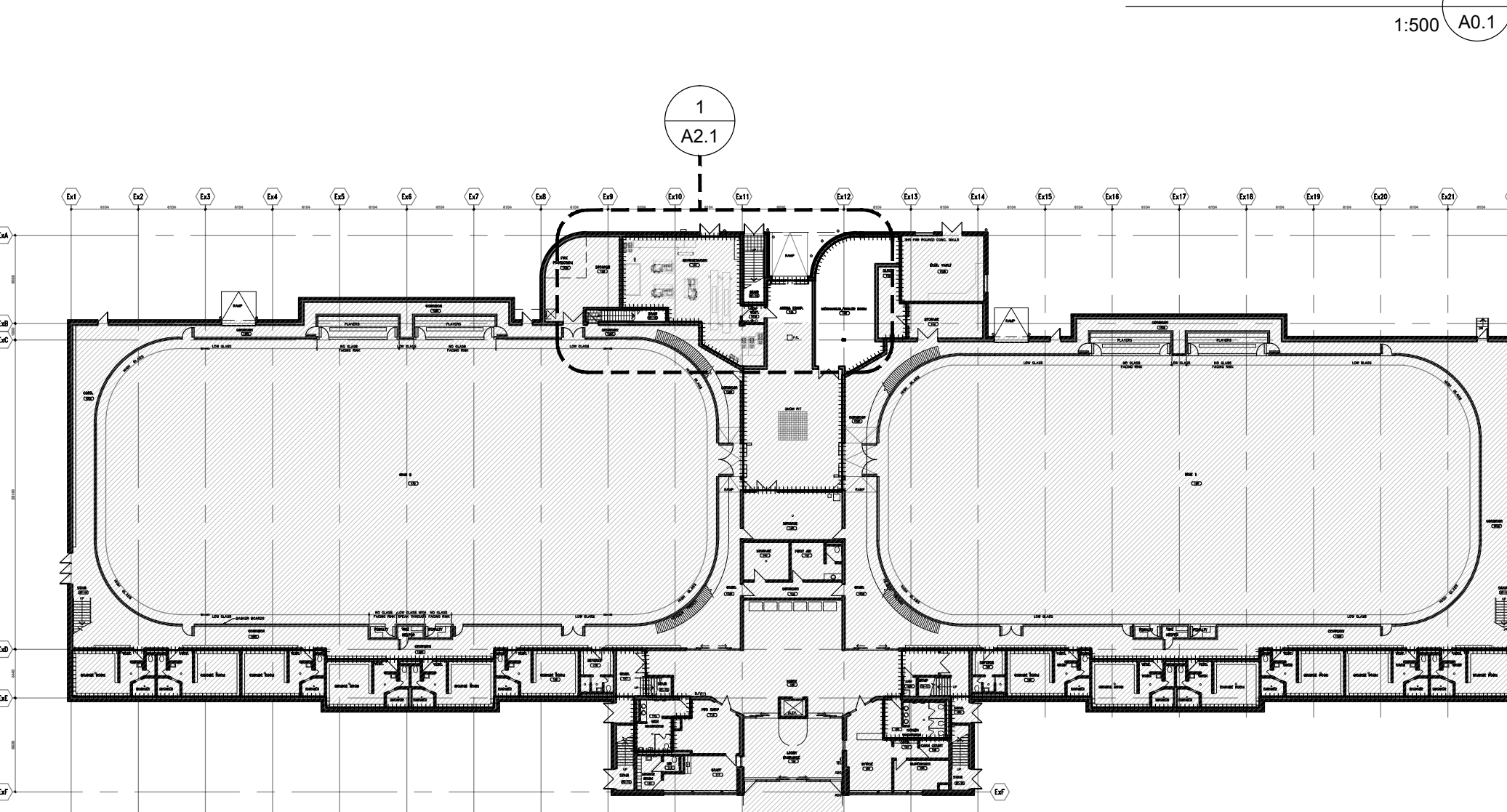
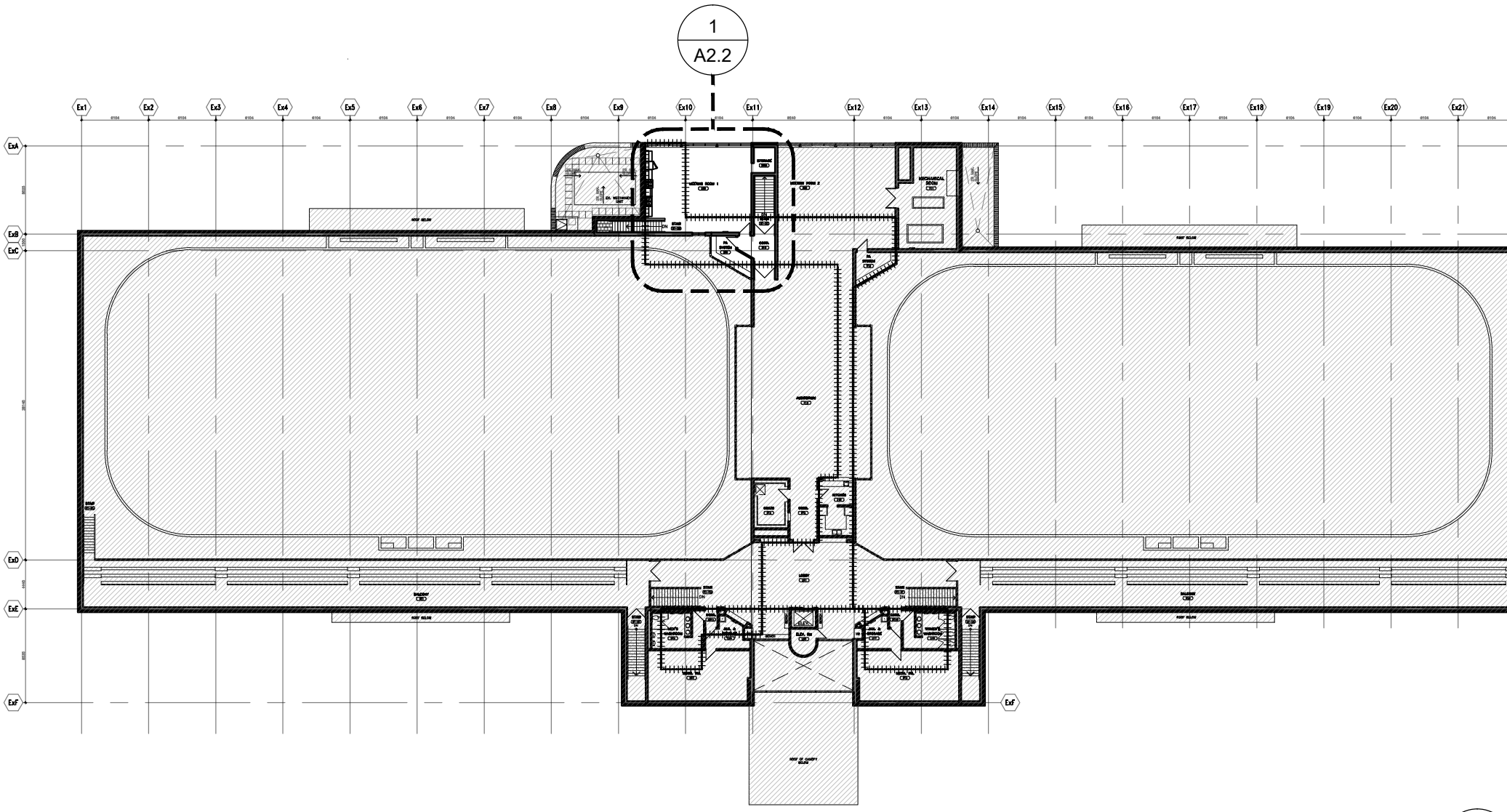
PLAN SYMBOLS section containing symbols for ROOM, DOOR NUMBER, WALL TYPE NOTE, BREAK LINE, ELEVATION REFERENCE, FLOOR ELEVATION, DRAWING NOTE, EQUIPMENT NOTE, GRID BUBBLE, ELEVATION LEVEL MARKER, CALL-OUT FOR BLOW-UPS, ELECTRICAL OUTLET, ELECTRICAL/CABLE/DATA OUTLET, FLOOR OUTLET/CONDUIT STUB-UPS, DIMMER SWITCH, SWITCH, GENERAL AREA NOT IN SCOPE

ABBREVIATIONS section listing terms like A.F.F., ALUM, CONC, CL, CLG, C/W, DWG(S), ELECT, ENGD, EX, EXT, F.O., FRR, GWB, H.S.S, MECH, MTL, OBC, O.C., P-LAM, PLYWD, PL, PT, P.T., RAF, REQ'D, R.O., SAFB, STL, STRUCT, S.S., T.O., T.BD, WD, U.N.O., U/S, V.I.F. and their corresponding descriptions.

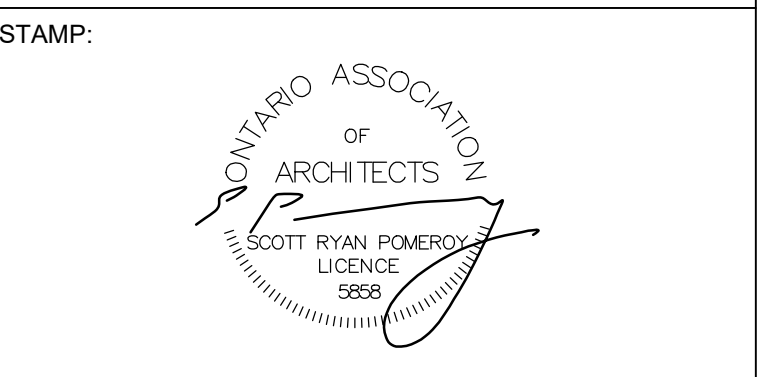
PROJECT STATISTICS section including ADDRESS, BUILDING, SCOPE OF WORK, EXISTING OCCUPANCY, PROPOSED OCCUPANCY, ARCHITECTURAL AREA OF WORK.

OBC MATRIX table with columns: Ontario Building Code Data Matrix, Part 11 - Renovation of Existing Building, Building Code Reference, and various compliance categories.

ARCHITECTURAL NOTES CONCERNING PROPOSED MECHANICAL WORK: 1. AT ALL LOCATIONS WITH ACT CEILINGS, REMOVE+REINSTALL TILES AND GRID AS REQ'D TO COMPLETE ALL MECHANICAL WORK...



CONSULTANT: pomeroarchitecture inc. 883 Pape Avenue, Suite 100, Toronto, ON M4K 3T9 416-628-9186 info@pomeroarchitecture.ca



STAMP table with columns: #, PERMIT & TENDER, REVIEW 90%, REVIEW 50%, COORDINATION, ISSUED FOR, and dates.

GENERAL NOTES: DRAWINGS ARE NOT TO BE SCALED. CONTRACTOR SHALL VERIFY ALL DRAWING DIMENSIONS AND REPORT ANY DISCREPANCIES PRIOR TO PROCEEDING WITH THE WORK...

DRAWING NOTES:

LEGEND: MECHANICAL/ELECTRICAL SCOPE OF WORK, EXISTING TO REMAIN, TO BE DEMOLISHED, NEW WALL, EXISTING DOOR TO REMAIN, EXISTING DOOR TO DEMOLISH, NEW DOOR, NORTH

PROJECT TITLE: TOMKEN TWIN ARENA - MECHANICAL AND VARIOUS BUILDING LIFECYCLE RENEWALS

PROJECT ADDRESS: 4495 TOMKEN RD, MISSISSAUGA, ON L4W 1J9

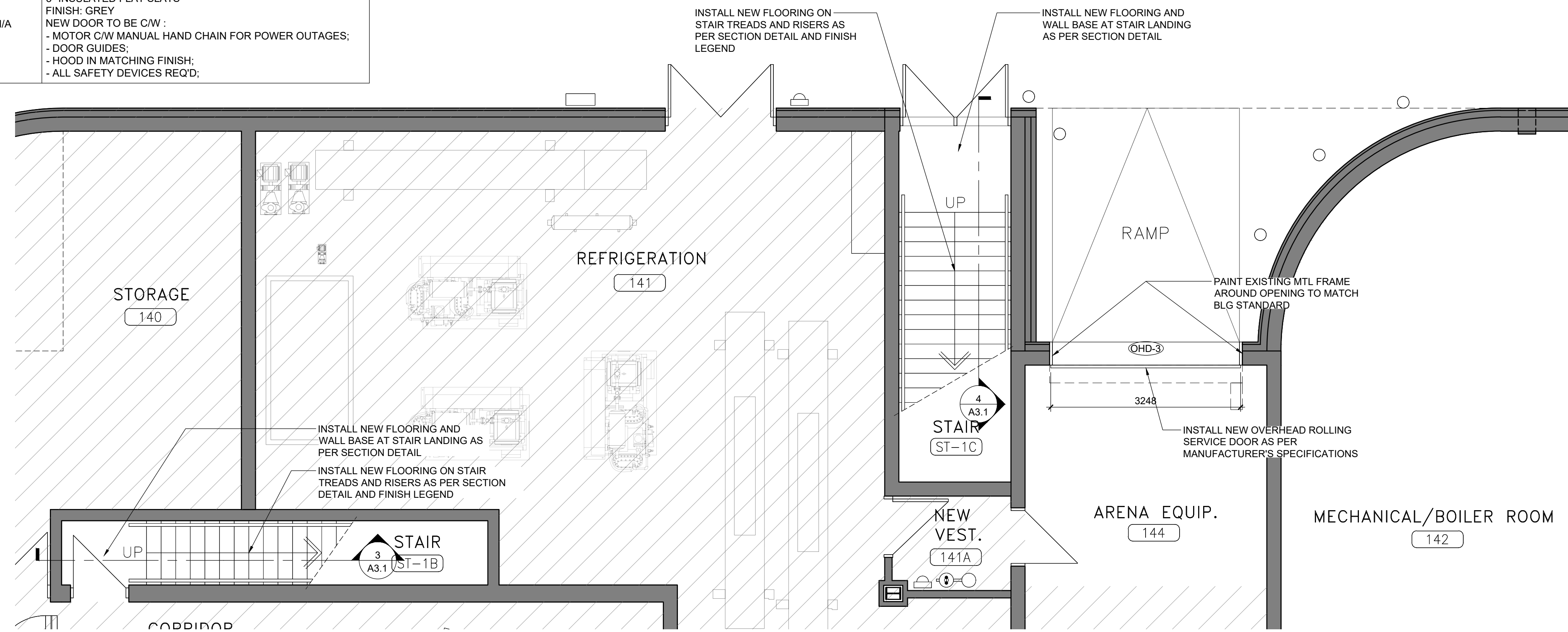
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DWG SCALE: AS NOTED JOB NUMBER: 240927

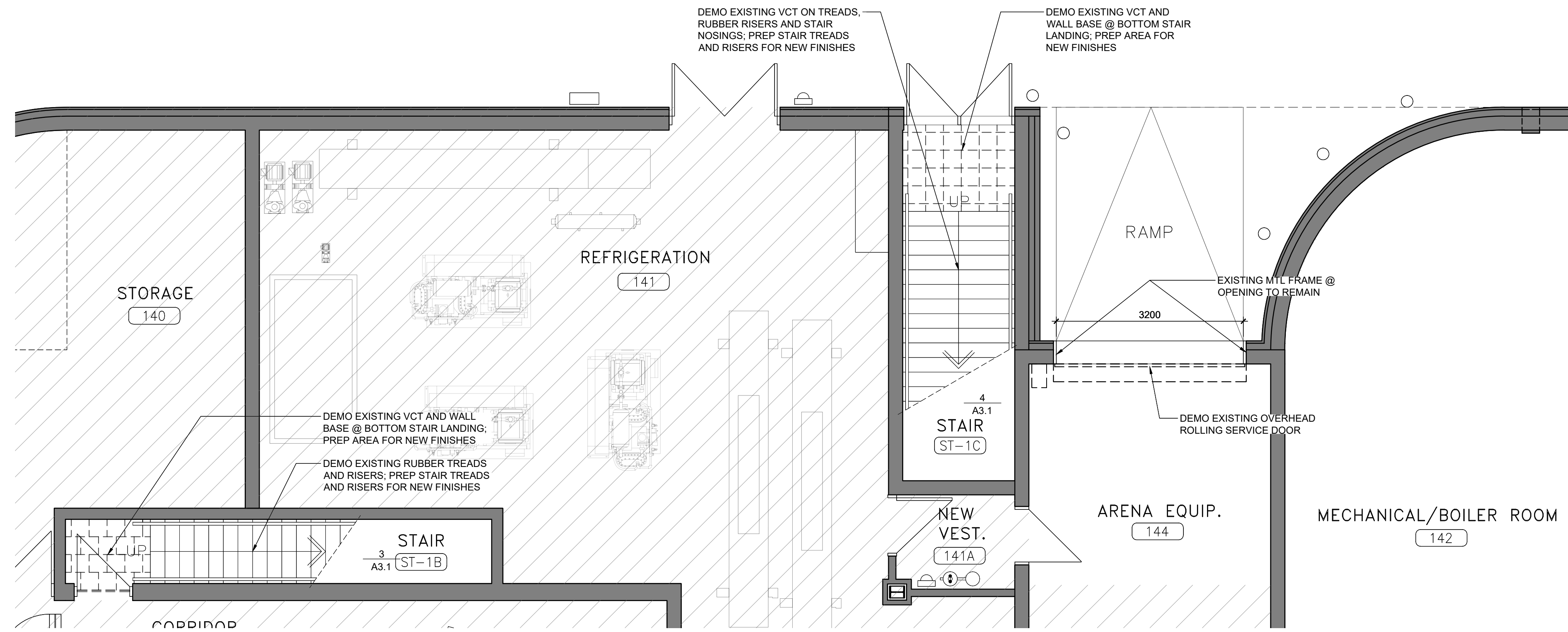
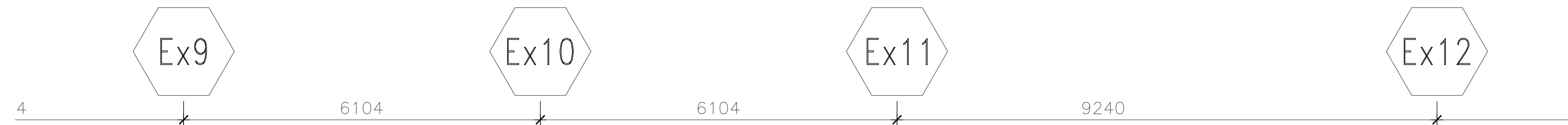
DWG NUMBER:

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DOOR SCHEDULE									
DOOR DATA					FRAME DATA			FRR OF DOOR AND FRAME	NOTES
DOOR #	MATERIAL	WIDTH	HEIGHT	LEAVES	FRAME TYPE	MATERIAL	FINISH		
OHD-3	STEEL; INSULATED	±3248 MM	VIF	N/A	EXISTING FRAME TO REMAIN		PT2	N/A	WAYNE DALTON MODEL 800C ADVANCED ROLLING DOOR SYSTEM 3" INSULATED FLAT SLATS FINISH: GREY NEW DOOR TO BE CW : - MOTOR C/W MANUAL HAND CHAIN FOR POWER OUTAGES; - DOOR GUIDES; - HOOD IN MATCHING FINISH; - ALL SAFETY DEVICES REQ'D;



GROUND FLOOR - PROPOSED PLAN 2
1:50 A2.1



GROUND FLOOR - DEMOLITION PLAN 1
1:50 A2.1

CONSULTANT:
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#	ISSUED FOR	YY/MM/DD
4	PERMIT & TENDER	24/12/13
3	REVIEW 90%	24/11/28
2	REVIEW 50%	24/10/16
1	COORDINATION	24/10/07

GENERAL NOTES:
DRAWINGS ARE NOT TO BE SCALED.
CONTRACTOR SHALL VERIFY ALL DRAWING DIMENSIONS AND REPORT ANY DISCREPANCIES PRIOR TO PROCEEDING WITH THE WORK. PROCEEDING WITH THE WORK SHALL CONFIRM THE CONTRACTOR'S ACCEPTANCE AND RESPONSIBILITY FOR DIMENSIONS SHOWN.

DRAWING NOTES:

LEGEND:

- EXISTING TO REMAIN
- TO BE DEMOLISHED
- NEW WALL
- EXISTING DOOR TO REMAIN
- EXISTING DOOR TO DEMOLISH
- NEW DOOR

NORTH

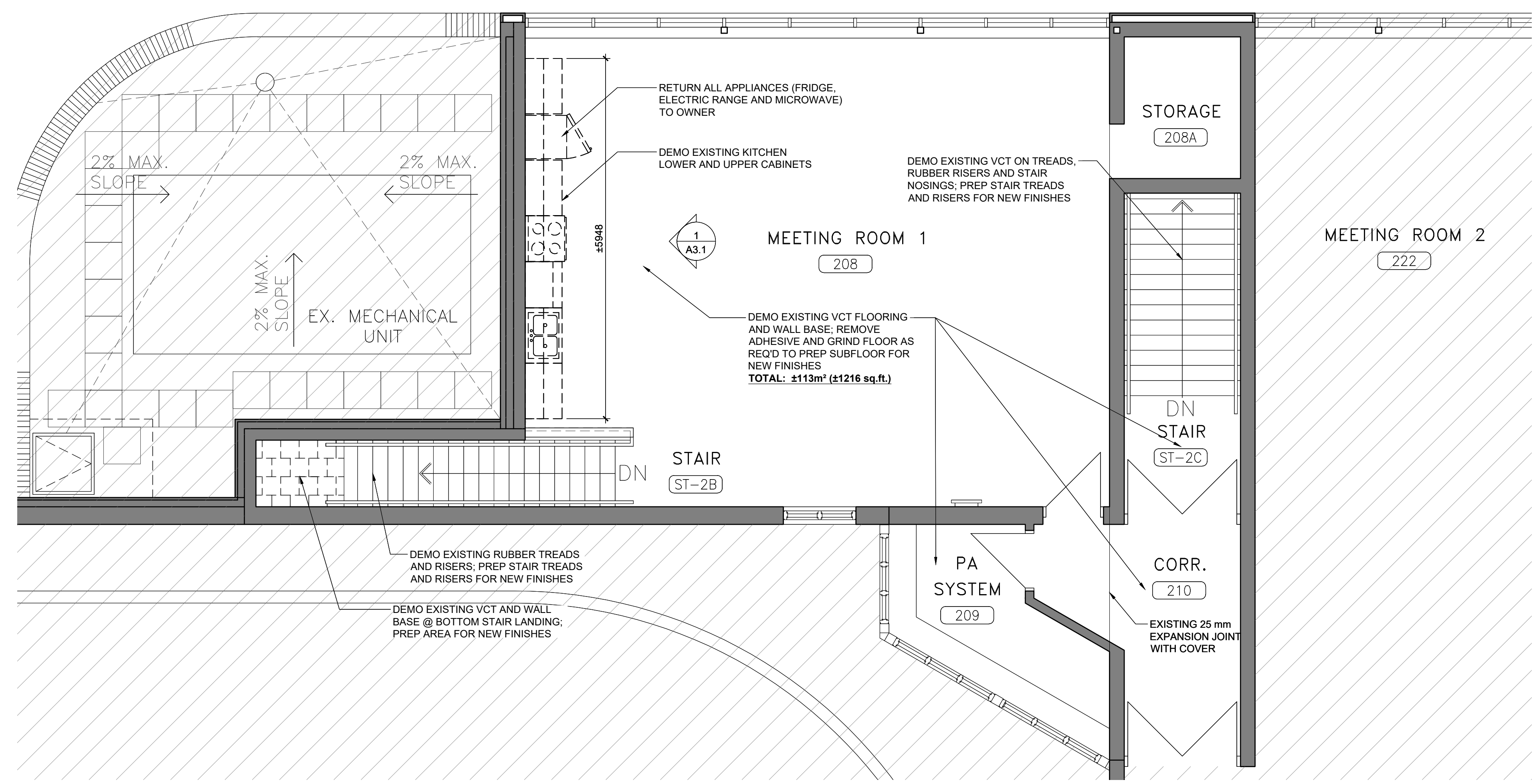
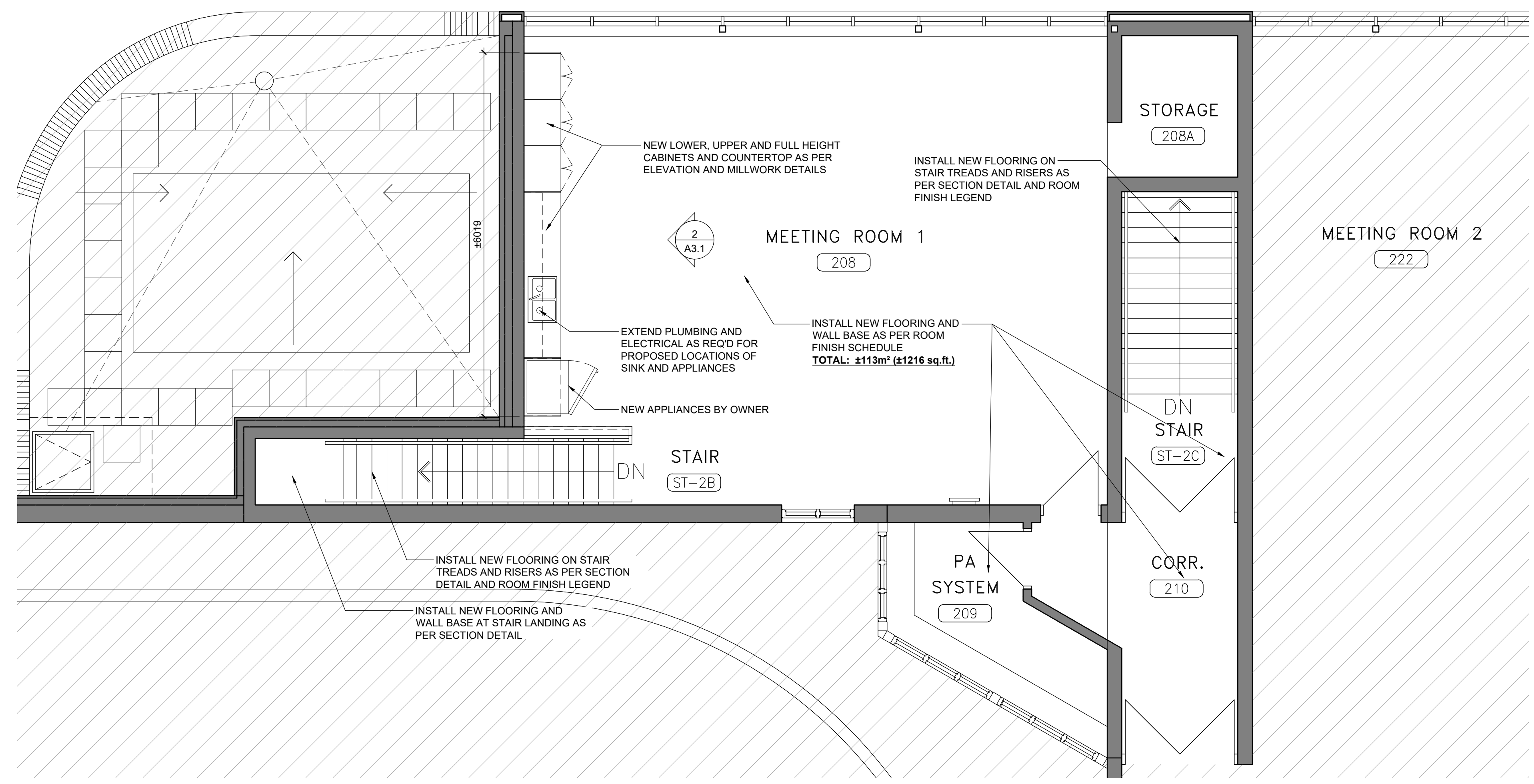
PROJECT TITLE:
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PROJECT ADDRESS:
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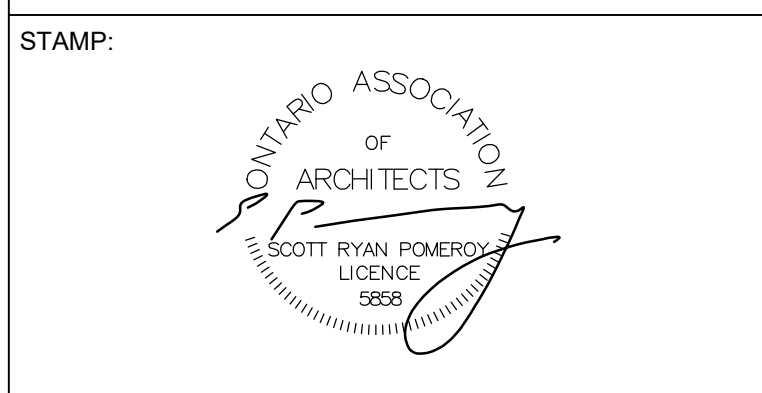
DWG TITLE:
GROUND FLOOR: DEMOLITION PLAN PROPOSED PLAN

DWG SCALE: AS NOTED
JOB NUMBER: 240927

DWG NUMBER:
A2.1



CONSULTANT:
pomeroyarchitecture inc.
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#	ISSUED FOR	YY/MM/DD
4	PERMIT & TENDER	24/12/13
3	REVIEW 90%	24/11/28
2	REVIEW 50%	24/10/16
1	COORDINATION	24/10/07
#	ISSUED FOR	YY/MM/DD

GENERAL NOTES:
 DRAWINGS ARE NOT TO BE SCALED.
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DRAWING NOTES:

LEGEND:

- EXISTING TO REMAIN
- TO BE DEMOLISHED
- NEW WALL
- EXISTING DOOR TO REMAIN
- EXISTING DOOR TO DEMOLISH
- NEW DOOR

NORTH

PROJECT TITLE:
TOMKEN TWIN ARENA - MECHANICAL AND VARIOUS BUILDING LIFECYCLE RENEWALS

PROJECT ADDRESS:
 4495 TOMKEN RD, MISSISSAUGA, ON L4W 1J9

DWG TITLE:
2ND FLOOR: DEMOLITION PLAN PROPOSED PLAN

DWG SCALE: **AS NOTED** JOB NUMBER: **240927**

DWG NUMBER:
A2.2

MILLWORK SCHEDULE

ROOM #	ROOM NAME	BASE CABINETS	WALL CABINETS / SHELVING	COUNTERTOP	BACKSPLASH	FULL HEIGHT CABINETS
208	MEETING ROOM 1	PL-1	PL-1	SO-1	—	PL-1

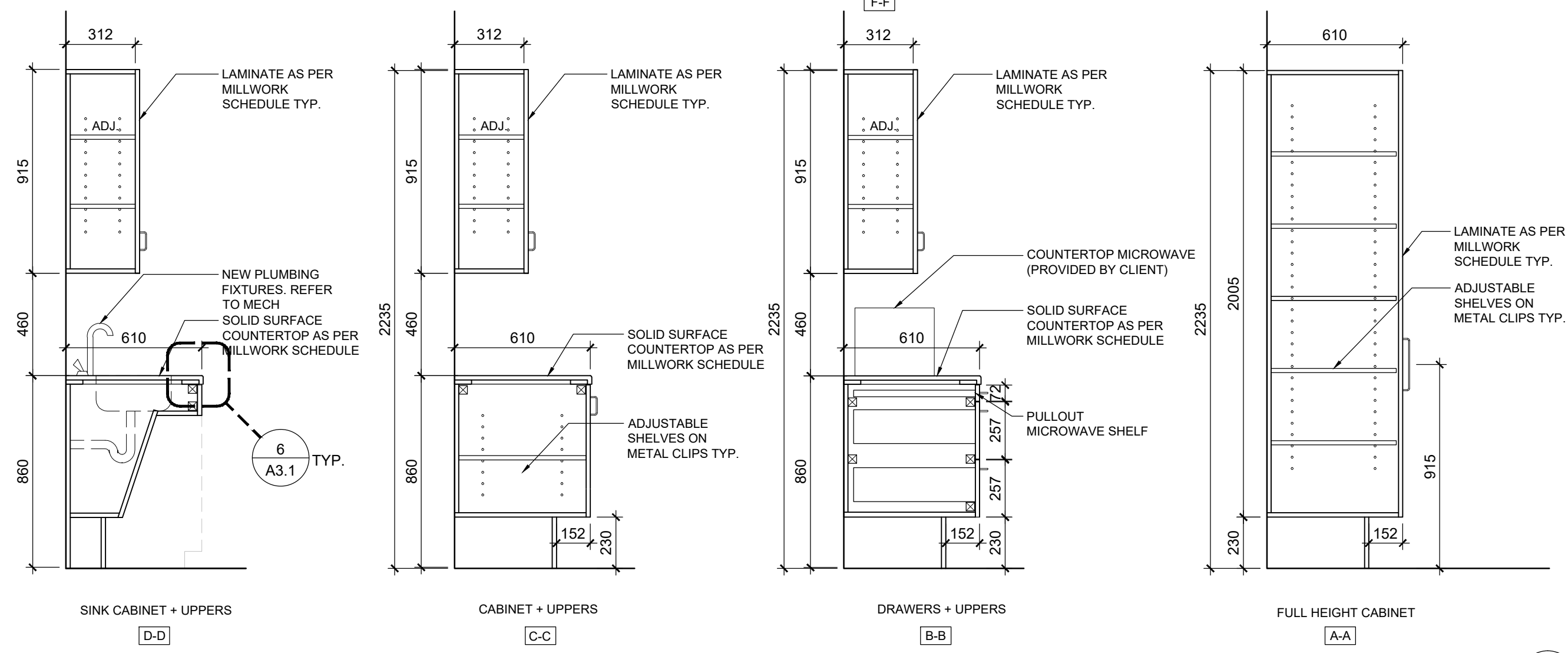
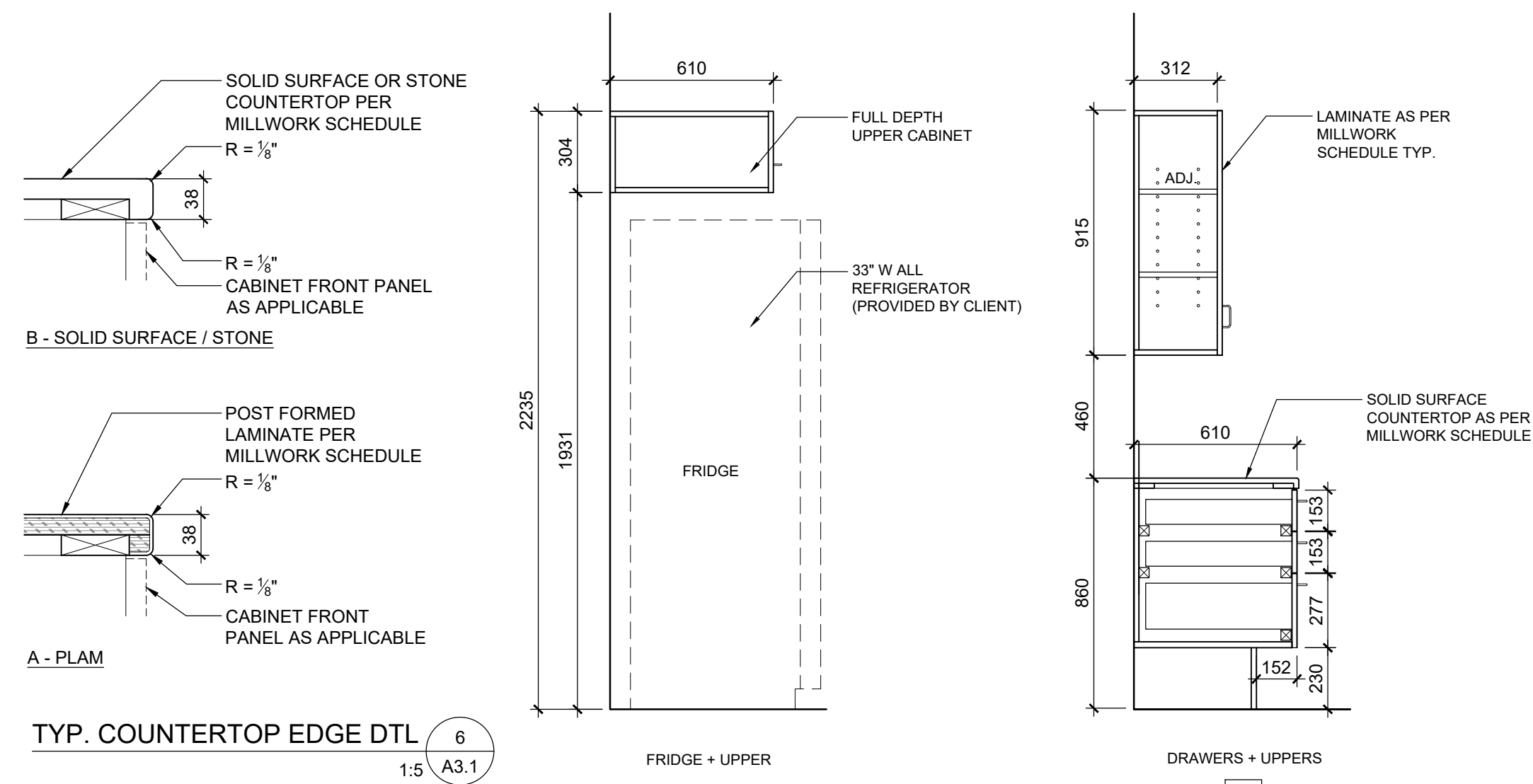
LEGEND:

PL-1 = FORMICA®
COLOUR: MOUSE[928-58]
FINISH: MATTE
HANDLES: RICHELIEU CONTEMPORARY METAL PULL - 873, 160mm, MATTE BLACK

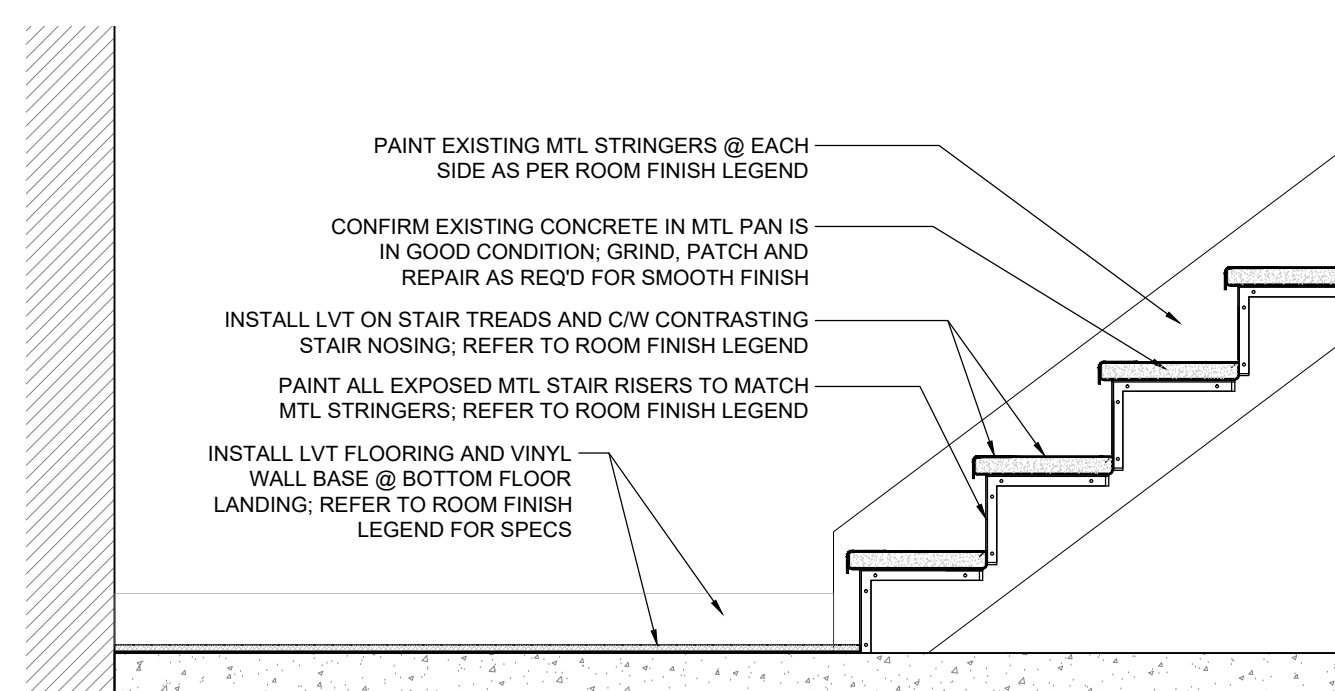
SO-1 = SOLID SURFACE COUNTERTOP
SUPPLIER: AVONITE
COLOUR: BLACK CORAL [9125]

MILLWORK & HARDWARE GENERAL NOTES:

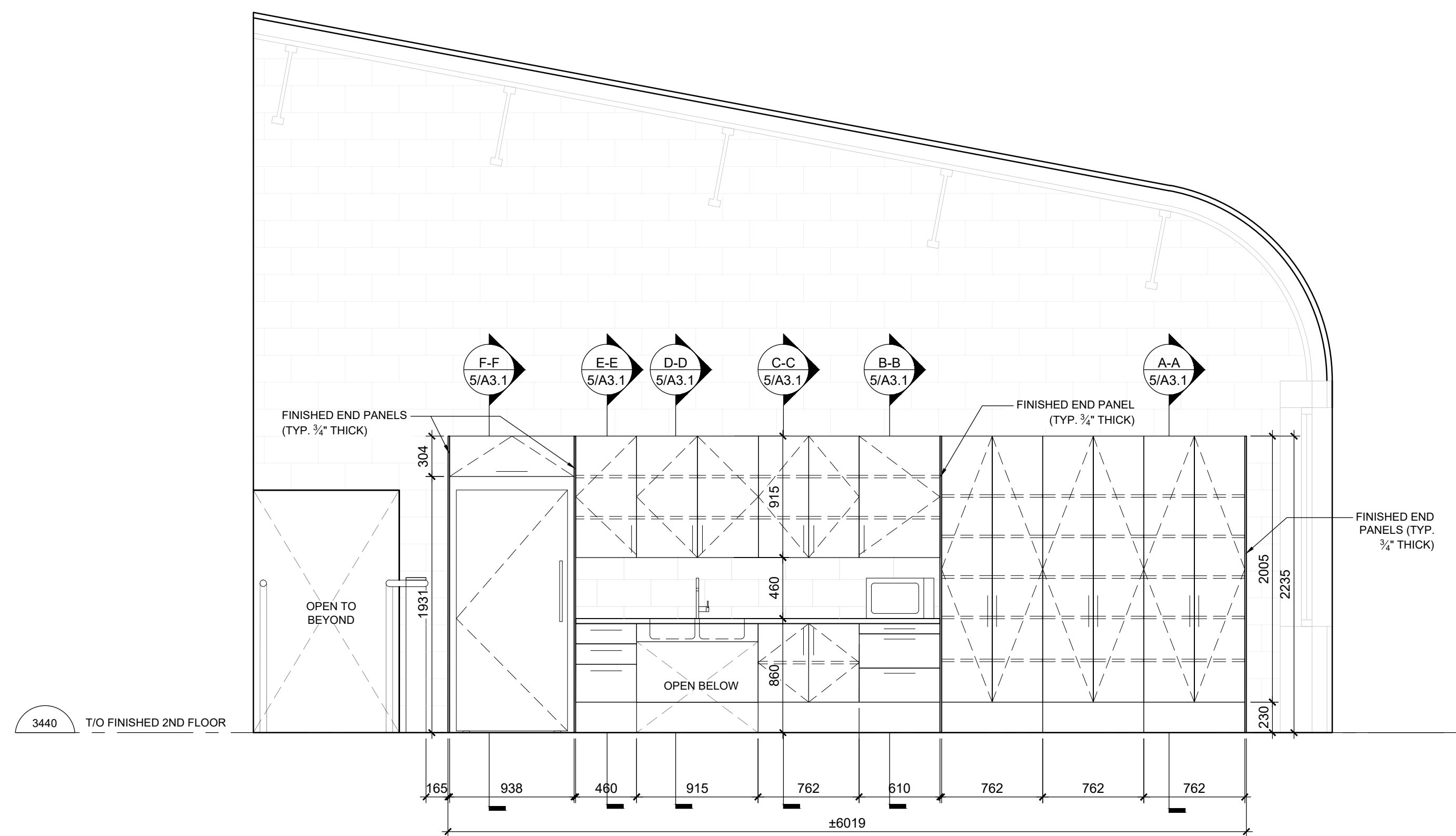
- EXPOSED SIDE PANELS, EXPOSED EDGES, EXPOSED CABINET INTERIORS & GABLES TO BE FINISHED SAME AS CABINETS PER MILLWORK SCHEDULE.
- FINISH FILLER PANELS TO MATCH ADJACENT CABINET.
- CABINET INTERIORS NOT EXPOSED TO VIEW ARE TO HAVE WHITE MELAMINE FINISH U.N.O.
- ALL HINGES TO BE BLUM 110° CLIP TOP HINGES W/ BLUMOTION SOFT CLOSE SYSTEM & COMPATIBLE PLATE BY RICHELIEU U.N.O.
- ALL DRAWERS TO HAVE ACCURIDE FULL EXTENSION CENTER MOUNT SLIDE WITH HOLD-IN DETENT & SOFT CLOSE.
- WHERE CABINETS SHOWN W/ HINGE AT TOP OF DOOR PROVIDE BLUM AVENTOS K LIFT SYSTEM.
- ALL CABINETS AND DRAWERS TO BE PROVIDED WITH RICHELIEU CAM LOCKS - BP140102090 IN BLACK FINISH.



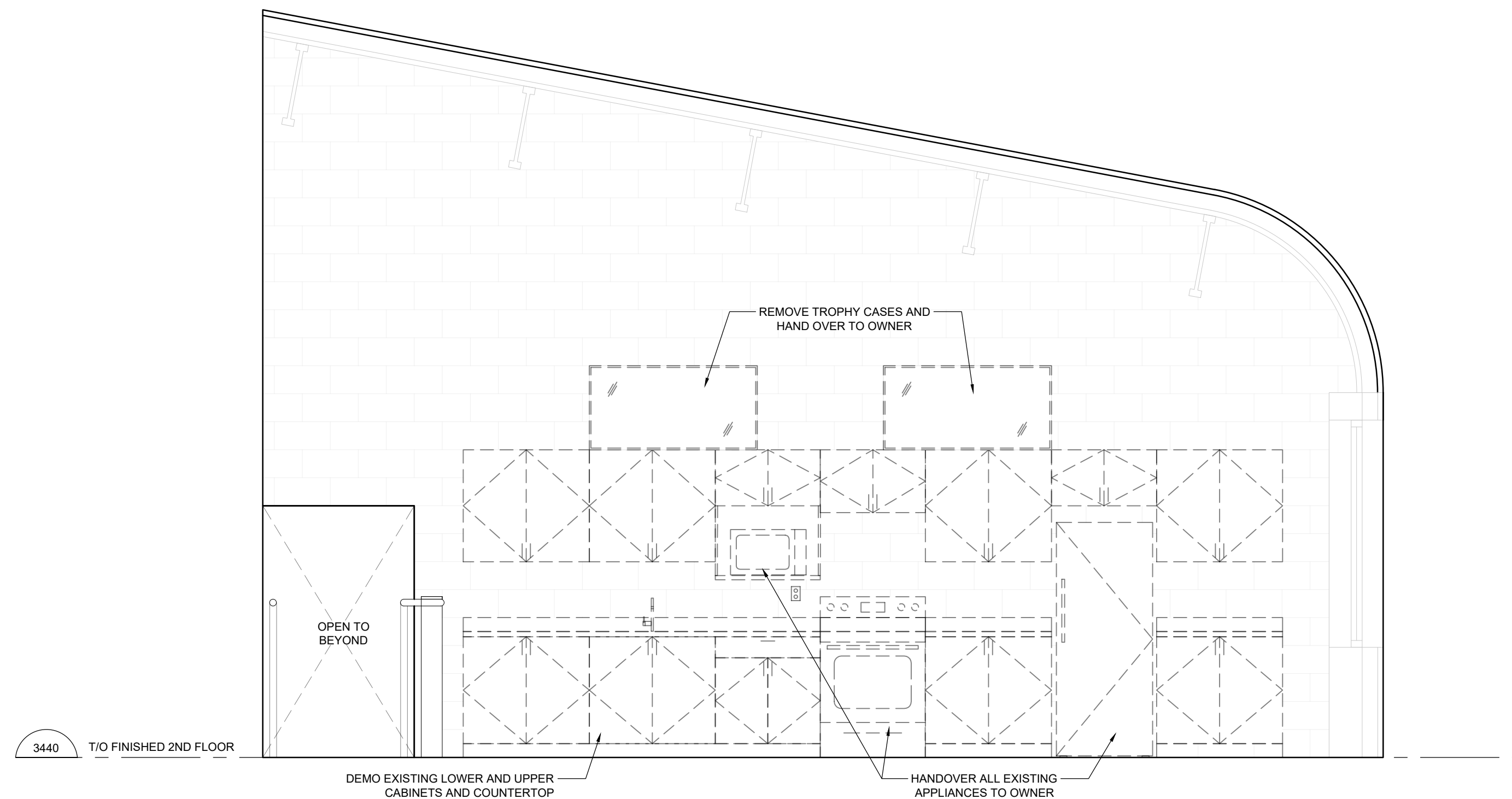
STAIR SECTION @ STAIR C 4
1:15 A3.1



STAIR SECTION @ STAIR B 3
1:15 A3.1



INTERIOR ELEVATION - MEETING ROOM 1 2
1:30 A3.1



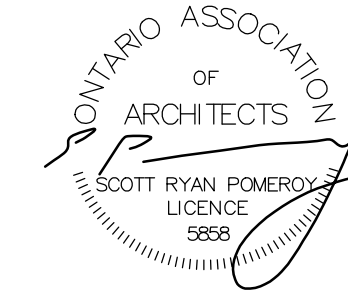
INTERIOR ELEVATION - MEETING ROOM 1 1
1:30 A3.1

CONSULTANT:

pomeroyarchitecture inc.

883 Pape Avenue, Suite 100, Toronto, ON M4K 3T9
416-628-9186 info@pomeroyarchitecture.ca

STAMP:



#	ISSUED FOR	YY/MM/DD
4	PERMIT & TENDER	24/12/13
3	REVIEW 90%	24/11/28
2	REVIEW 50%	24/10/16
1	COORDINATION	24/10/07
#	ISSUED FOR	YY/MM/DD

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PROJECT ADDRESS:
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DWG TITLE:

INTERIOR ELEVATIONS AND DETAILS

DWG SCALE:

AS NOTED

JOB NUMBER:

240927

DWG NUMBER:

A3.1